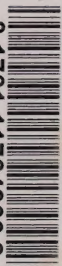


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Official Crop Estimate---Pages 2-11.

# Canadian Official Record

Published Weekly by the Director of Public Information to Record the Activities of Various Departments of the Government, Commissions and Committees organized for War Purposes and Reconstruction under Authority of Order in Council.

Vol. 1.

Ottawa, Thursday, August 28, 1919.

No. 46

## TO INQUIRE INTO RACING AND BETTING

*Commissioner Appointed to  
Carry on an Investigation  
Into Conditions Pertaining  
to Race Meets in Canada*

### GIVEN WIDE POWERS

John G. Rutherford, Esq., has been appointed a Commissioner under the Inquiries Act, to inquire into conditions pertaining to race meets, and betting in connection therewith, by an Order in Council passed August 23, as follows:—

The Committee of the Privy Council, on the recommendation of the Right Honourable the Prime Minister, advise that John Gunion Rutherford, Esq., be appointed a Commissioner under Part I of the Inquiries Act, R.S.C. 1906, Chapter 104, to inquire into and concerning the conditions pertaining to running race meets and betting in connection therewith in Canada, including, without limiting the generality of his powers, inquiry into and concerning:—

- (1) the number, character and methods of operation of race tracks in each district or locality;
- (2) the amounts of capital invested in the several jockey clubs and race tracks in each district;
- (3) the respective periods of time and the seasons during which race meets have been or are customarily held in each year in each locality;
- (4) the general effects of such race meets and betting upon the community or any particular class or classes of the community;
- (5) the methods, devices and operations in connection with betting at the race meets and at other places, and the extent to which and the methods by which betting is carried on legally or illegally in each locality;
- (6) the effects of racing upon the production of improved breeds of horses and thoroughbred stock;
- (7) generally, all other matters directly or indirectly connected with or relating to conditions surrounding race meets and betting in connection therewith;

and to submit with his report the evidence to be taken in the case for the information of Your Excellency in Council; and, moreover, that said Commissioner be authorized by his Commission to have and exercise all the powers specified in and by Section 11 of the said Act as enacted by Chapter 28 of the Statutes of Canada, 1912.

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.

### Canada's Farm Wealth.

The total estimated agricultural wealth of the Dominion of Canada for the year 1917, is \$6,930,145,000, according to data compiled by the Dominion Bureau of Statistics.

## TO EXEMPT THOSE PAID NOT OVER \$200

**Immunity From Competitive Appointment in Civil Service Positions at Low Salary**

Appointments to positions in the Civil Service where the salary does not exceed \$200 per annum are exempted from competition by an Order in Council passed August 14, as follows:—

Whereas the Secretary of State submits a report from the Civil Service Commission recommending for approval a regulation exempting from competition appointments to positions where the salary does not exceed \$200 per annum;

Therefore the Deputy Governor General in Council, under and in virtue of the provisions of Section 28 of the Civil Service Act, 1918, is pleased to approve the following regulation and the same is hereby approved accordingly:—

In the case of positions where the salary does not exceed \$200 per annum, appointments may be made without competition upon the recommendation of the Deputy Head of the Department, approved by the Commission, unless circumstances should render desirable the advertising of the position. The report of the Deputy Head recommending a suitable person for appointment shall include a statement as to the character of his present employment, references, age, evidence as to character, the terms of the engagement and the rate of compensation. It shall also be accompanied by the declaration provided by Section 24 of the Regulations of the Civil Service Commission, to wit:—

- (a) that the appointment is necessary for the efficient carrying on of the work of the Department;
- (b) that the selection has been made without reference to personal or political considerations and strictly on the merit principle as between persons applying or available for the position;
- (c) that the person selected has satisfied the Department as to his qualifications;
- (d) that he is suitable as to age, character or habits;
- (e) that the salary recommended is fair and reasonable and does not exceed the rates approved by the Department or prescribed by the Civil Service Act, 1918.

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.

### Peace River District.

The Peace River district of Canada, the drainage basin of the Peace river, lies in the northern parts of the provinces of Alberta and British Columbia and contains an area of over 115,000 square miles, or 74,067,680 acres. Of this area, Alberta contains 66,395 square miles, or 42,492,800 acres, and British Columbia 49,367 square miles, or 31,594,880 acres, as stated in a bulletin issued by the Department of the Interior.

## LAST ISSUE OF THE RECORD.

This will be the last issue of the "Canadian Official Record."

The "Record" was designed to furnish official information to the public during the war and demobilization. That purpose has now been substantially realized.

While the present usefulness of the "Official Record" is attested by an increasing demand for it and by many letters of appreciation it is felt that the more restricted services it will be able to render in future do not warrant its continuance.

The circulation of the "Official Record" has averaged 27,000 copies weekly. During the past six months over 5,000 names have been placed on the mailing list in response to specific requests from public officials and others participating in the work of demobilization and repatriation.

## IMMIGRATION FROM U.S. DURING MONTH OF JULY

During July 2,652 settlers from the United States arrived in Western Canada, via the boundary ports, Port Arthur to Kingagat, inclusive. Their occupation: 609 farmers, 191 farm and other labourers, 111 mechanics, 14 railroaders, 58 clerks, 17 domestic servants, 9 miners, 24 professional, 927 women and children, 93 not classified. Their destination: 32 to Ontario, 309 to Manitoba, 502 to Saskatchewan, 1,059 to Alberta, 111 to British Columbia, 20 not stated. Wealth of settlers \$1,182,675, and effects valued at \$190,746. As compared with 1,372 arrivals in July, 1918, with wealth of \$569,831 and effects \$122,469, according to a report received by the Department of Immigration and Colonization from their Winnipeg office, under date of August 15.

### Hudson Bay Fisheries.

The fisheries of Hudson Bay are very extensive, and the food fish found in abundance include the Arctic salmon, which resembles the British Columbia variety; the sturgeon, cod, and whitefish, which is the most abundant and valuable fish of that region. The Beluga or white whale is numerous and several varieties of seal are found, as stated in a bulletin issued by the Department of the Interior.

## EMPLOYMENT SERVICE IS VERY ACTIVE

*Over 20,000 Persons Placed  
in Regular Work or Referred  
to Positions During  
Week Ended August 9*

### HIGHEST PLACEMENT YET

The Employment Service of Canada is continuing to show increased efficiency throughout the country, according to the weekly report issued by the Employment Service of the Department of Labour.

For the week ending August 9 the eighty-eight offices, established co-operatively by the Dominion and Provincial Governments, reported that 10,441 persons were referred to positions and that 9,649 had received regular employment. This is the highest placement yet recorded and represents an increase of 2,052 over the preceding week, when 7,597 persons were reported as placed in regular work. In addition, 771 casual jobs were supplied, as compared with 879 during the week ending August 2.

During the week 11,466 applicants were registered, of whom 667 were women and 10,799 were men. The number of vacancies notified by employers during the week totalled 18,130, of which 824 were for women and 17,306 for men. Of the placements in regular employment 433 were women workers and 9,216 were men. The number of soldiers reported as placed was 3,006, or 30.7 per cent of the total. The increase in placements this week is mainly in the three Prairie Provinces, and may be largely attributed to the demand for harvesters and general farm help. The placements in agricultural work during the week were as follows: In Alberta, 242 men, or 30.7 per cent of the total placements for the province; in Saskatchewan, 1,165 men, or 76.5 per cent of the total placements for the province; in Manitoba, 1,895 men, or 54.9 per cent of the total placements for the province. That is, the placements figure in agriculture in these three provinces accounts for 23.5 per cent of the total placements during the week for the Dominion.

Of the placements, 32 were reported by Prince Edward Island, a decrease of 2; 112 by Nova Scotia, a decrease of 7; 236 by New Brunswick, a decrease of 65; 619 by Quebec, an increase of 129; 2,102 by Ontario, a decrease of 294; 2,274 by Manitoba, an increase of 1,483; 1,522 by Saskatchewan, an increase of 278; 789 by Alberta, an increase of 54; and 963 by British Columbia, an increase of 176.

### Total Number Sent Overseas.

The total number of Canadian soldiers sent overseas was 429,913. Out of this number, 364,599 were alive at the end of the war, as stated in the report of the Overseas Minister of Militia.







## ST. DUNSTAN'S IS RE-TRAINING 80 BLIND CANADIANS

### Blind Soldier Representative of Department of Soldiers' Civil Re-establishment, Makes Report

"The difficulties in placing demobilized men in England have been greatly increased by the general unrest, labour troubles, and the coal shortage, which has thrown so many, beside the strikers, out of work," says Captain E. A. Baker, M.C., Croix de Guerre, blind soldier representative of the Department of Soldiers' Civil Re-establishment, who has just returned from overseas.

"Where Canada has been able to handle her returned men in comparatively small numbers between shipments, England, in her nearness to the seat of war, and with the labour troubles mentioned, already seething, has been faced with the additional burden of having thousands of men dumped into the country with a rapidity that left little time for the competent handling of one batch before the next arrived.

"In Manchester alone between 40,000 and 50,000 men were out of work at the end of July, due to the shortage of coal and raw materials."

Captain Baker crossed to England in June to visit Canadian men blinded in the war who are in training at St. Dunstan's, and to note the latest developments in training, with a view to adapting similar methods where possible for Canada.

The number of blind who up to date have been trained at St. Dunstan's is 1,400. Of these, 80 belong to Canada. At the present time there are 40 Canadians in residence undergoing re-training, the last of whom will have completed their training and be ready to return to Canada by the fall of 1920. About 15 to 18 retrained Canadians have decided to remain in England.

The chief subjects being taken up by the Canadian blind are: Massage, Braille Stenography and Typewriting, General Business Courses, Poultry Farming, Shoe Repairing, Carpentry, Mat and Basket Making.

A complete and permanent system of After Care has been organized in connection with St. Dunstan's. The country is divided into two districts, the northern including Scotland, Ireland, Wales, and the northern portion of England; the southern including London, south of England, and Channel Islands.

Technical and social visitors are attached to the general administrative staff, whose business it is to connect up with every man in the two districts, to assist him in the purchase of raw material and in finding a market for his finished products.

Immediately a graduate leaves the training ground of St. Dunstan's and his future working place is located his name is put upon the lists of the After Care Branch.

Visits are paid once a month. If a craftsman, the man's work is advertised in the local paper and every effort made to give him a good start off.

Those men who were re-trained in the early days of St. Dunstan's are not allowed to rust as new methods of working or handicraft are discovered. The vocational officer is empowered to visit them and give such further instruction as may be necessary in order to bring their training up to date. Also in the case of a graduate discovering a side line in his local town in which he might successfully compete, the technical officer will instruct him in the new work.

Any graduate failing on account of local conditions to make good at his

trade may return to St. Dunstan's for retraining.

The After Care Department purchases all raw material for graduates, thus getting the best quality at lowest cost. This is shipped out in small lots to the individual as required. Any surplus of finished articles over and above his local sales, may be shipped to St. Dunstan's, where they are sold for his benefit.

It is Captain Baker's intention to formulate a scheme for duplicating in some way this after care system for the blind soldier in Canada.

The general plan will, however, be somewhat modified to meet the difference in conditions and numbers upon this side, Canada having somewhere about 124 blind returned men spread over a district about forty times as large as that covered in England for the benefit of close upon 1,400 men. It is estimated that approximately 100 blind men will need after care. For this Pearson Hall, Toronto, will be the headquarters.

As it is purely a war-time institution, it is anticipated that St. Dunstan's will close at the end of 1920, when the last blind returned man will have been trained, and the permanent After Care Department will thereafter carry on.

In England the National Institute for the Blind has secured control of most civilian institutions with a view to some scheme of systematizing the work upon similar lines to those which have been so successful at St. Dunstan's.

Sir Arthur Pearson, the founder of St. Dunstan's, has recently been appointed Chairman of the Governing Board of Worcester College for Higher Education of the Blind, and he has many further schemes for carrying on the good work for the benefit of civilian blinded men, after the returned man has been successfully sent on his way.

## ORDER IS CANCELLED NOT NOW REQUIRED

The Order in Council dated May 29, 1918, authorizing a rebate of 90 per cent of the duty on the importation into Canada of unrestricted or free foreign wools, when such wools were re-exported from Canada on the recommendation of the War Trade Board, has been cancelled, as it is no longer required owing to the cessation of the conditions which made it necessary. It has been annulled by an order dated August 15, as follows:—

Whereas the Minister of Trade and Commerce reports that the Order in Council (P.C. 1323) dated 29th May, 1918, authorizing a rebate of 90 per cent of the duty paid on the importation into Canada of unrestricted or free foreign wools, when such wools were re-exported from Canada under license by the Minister of Customs on the recommendation of the War Trade Board, is now no longer required, as the conditions which made this Order necessary no longer exist and have not existed since the 28th February, 1919;

And whereas the Minister further reports that pursuant to the said Order in Council, it was arranged that all wool produced in Canada, except that which was sold for Canadian purposes, should be first offered for sale on the Canadian market at the same price as would have been obtained if sold for export to the United States; and that owing to the conditions having changed since the signing of the Armistice, this is now no longer necessary;

Therefore the Deputy Minister of Trade and Commerce is pleased to advise that the said Order in Council (P.C. 1323) dated 29th May, 1918, shall be annulled with effect from the 28th day of February, 1919.

ROBERT L. BROWN, CLERK.

All homes should have W. S. Stamps.

## OFFICIAL CROP ESTIMATE UP TO THE END OF JULY

### Total Yield of Field Crops for Canada and by Provinces, 1919, as Indicated by Condition on July 31, 1919

The following summary issued by the Dominion Bureau of Statistics is an estimate compiled from returns received up to July 31 of the yield of field crops for Canada and by provinces in 1919, as indicated by condition of crops and other indications up to the end of July:—

Field Crops.	Average Yield per Acre 1900-18.	Condition on July 31, (100 = average yield per acre 1900-18.)	Yield per acre as indicated by condition.	Area Sown according to Estimate of June 30, 1919.	Total Yields as indicated by Condition on July 31, 1919.
	bu. shels.	p. c.	bu. shels.	acres.	bu. shels.
Canada—					
Fall wheat <sup>1</sup> .....	22-50	-	35-75	797,750	22,875,500
Spring wheat.....	17-75	77	13-75	16,494,830	225,632,300
All wheat.....	18-25	-	14-50	17,292,570	248,508,100
Oats.....	24-50	81	27-50	14,754,150	405,818,900
Barley.....	25-75	85	22-50	2,017,920	67,656,000
Rye.....	17-50	88	15-25	565,275	8,654,000
Pean.....	18-25	92	16-25	213,283	3,475,100
Beans.....	16-75	95	16-25	166,066	2,701,200
Buckwheat.....	22-00	94	20-75	553,225	11,416,200
Mixed grains.....	23-75	89	20-50	896,650	25,055,500
Flax.....	10-00	74	7-75	1,089,330	8,171,000
Corn for husking.....	59-75	88	43-75	230,030	10,446,000
Potatoes.....	149-50	89	141-00	712,665	100,544,400
Turnips, mangolds, etc.....	302-25	86	307-75	330,935	101,854,000
Hay and clover <sup>1</sup> .....	1-50	-	1-05	16,062,870	17,408,845
Alfalfa <sup>1</sup> .....	2-50	-	1-50	196,793	290,208
Corn for fodder.....	9-00	98	8-50	487,115	4,149,500
Sugar beets.....	9-00	-	7-50	18,000	135,000
P. E. Island—					
Spring wheat.....	19-00	100	19-50	20,800	696,000
Oats.....	34-75	100	35-75	171,000	6,115,000
Barley.....	28-00	100	28-75	5,300	155,400
Pean.....	21-00	100	21-00	400	8,400
Buckwheat.....	26-50	98	25-00	8,000	144,000
Mixed grains.....	40-75	100	40-00	14,300	590,000
Potatoes.....	180-00	101	181-75	22,000	5,482,000
Turnips, mangolds, etc.....	452-50	101	453-50	4,000	4,061,400
Hay and clover <sup>1</sup> .....	1-50	-	1-05	225,000	236,000
Corn for fodder.....	10-25	98	10-00	400	4,300
Nova Scotia—					
Spring wheat.....	21-25	101	21-25	24,940	692,700
Oats.....	32-00	101	32-25	147,000	4,762,100
Barley.....	28-00	100	28-50	11,500	304,500
Rye.....	18-00	101	18-25	400	8,400
Pean.....	25-75	100	25-75	1,753	45,100
Beans.....	19-75	100	19-75	6,500	128,000
Buckwheat.....	23-75	99	23-25	15,900	378,400
Mixed grains.....	35-75	101	34-00	5,440	195,000
Potatoes.....	190-25	101	192-25	42,000	9,563,300
Turnips, mangolds, etc.....	413-75	97	401-25	23,250	9,580,200
Hay and clover <sup>1</sup> .....	1-75	-	2-00	612,300	1,308,500
Corn for fodder.....	8-25	94	7-75	4,620	35,800
New Brunswick—					
Spring wheat.....	18-25	98	17-50	43,000	753,000
Oats.....	28-75	98	28-25	225,370	6,306,700
Barley.....	25-75	98	24-75	6,450	156,000
Rye.....	16-00	100	16-00	310	5,000
Pean.....	19-00	98	18-00	4,000	75,100
Beans.....	22-00	98	21-75	4,000	101,500
Buckwheat.....	24-00	98	23-75	71,000	1,708,200
Mixed grains.....	31-00	97	30-00	4,300	127,800
Potatoes.....	186-00	99	184-25	56,942	10,381,000
Turnips, mangolds, etc.....	316-00	97	320-50	18,300	6,171,300
Hay and clover <sup>1</sup> .....	1-50	-	1-45	732,000	1,061,500
Alfalfa <sup>1</sup> .....	2-50	-	1-75	1,178	2,100
Corn for fodder.....	7-00	97	6-75	3,400	23,000
Quebec—					
Spring wheat.....	16-50	96	16-25	340,100	5,526,000
Oats.....	26-75	102	27-25	1,932,700	52,666,100
Barley.....	23-25	96	22-75	185,400	4,217,000
Rye.....	16-00	98	15-75	28,200	444,200
Pean.....	12-25	97	12-00	99,200	1,198,800
Beans.....	17-00	97	16-50	88,900	1,466,900
Buckwheat.....	22-00	96	21-00	222,500	4,672,500
Mixed grains.....	26-25	101	26-00	192,300	5,086,000
Flax.....	10-25	96	9-75	8,800	66,300
Corn for husking.....	23-50	99	23-25	49,200	1,143,900
Potatoes.....	143-50	99	143-00	259,000	36,862,200
Turnips, mangolds, etc.....	280-00	98	283-25	90,700	25,680,800
Hay and clover <sup>1</sup> .....	1-50	-	1-75	4,623,900	8,091,500
Alfalfa <sup>1</sup> .....	2-50	-	2-00	8,100	8,200
Corn for fodder.....	8-20	100	8-75	77,700	679,900

[Continued on page 11.]







# RESEARCHES WILL LESSEN FOG'S DELAYS AND DANGERS

## Improvement of Fog Signal Machinery and Ships' Sirens made possible by Studies in Measurement of Sound carried on in Gulf of St. Lawrence.

The early results of researches carried out by Louis W. King, M.A., D.Sc., F.R.S.C., McGill University, Montreal, on sound measurement, with reference to the testing of fog signal machinery, are published in Bulletin No. 2, issued by the Honorary Advisory Council for Scientific and Industrial Research. The bulletin is entitled: "A Preliminary Report on Researches on Sound Measurement." The report is reproduced below, as follows:—

Although powerful sirens have been in use in all maritime countries for nearly half a century, there was until recently comparatively little accurate scientific information available regarding the way in which sound-waves were actually generated by such apparatus. It has long been known that existing types of sirens or steam whistles are extremely inefficient, that is, that little of the power furnished was converted into sound of such a character or quality as would penetrate a desired distance in foggy weather. The extent to which it is possible to protect a trade route in this way from accidents due to fog depends ultimately on the power, penetration and reliability of the fog alarms which can be installed and operated at a given cost. It is evident, therefore, that as in other branches of engineering, one may expect advances to be made as soon as the quantities dealt with shall have been subjected to measurement. For instance, wireless telegraphy as a practical art reached nearly to its full development in little more than a decade. The reason for this rapid advance lay in the fact that precise methods of measuring electrical quantities were at hand when the first experiments proving the practicability of radio-telegraphic transmission were carried out.

The difficulty in the development of what may be called "Acoustic engineering" has been the almost total lack of sound-measuring instruments. The development of fog-signal machinery has also been retarded by the fact that experimental tests are not only very costly but have had to be conducted at isolated stations far removed from laboratory facilities.

In spite of these difficulties, Canada has been among the most progressive of maritime countries in the experimental development of fog-alarm systems. The type of fog-alarm which has found favour in Canadian waters and has been installed in many localities, is a modified form of compressed-air siren known as the "diaphone." The original diaphone was invented by Dr. Owen Hope-Jones. Its utilization for fog-alarm purposes was first suggested by Lieut.-Col. Anderson, Chief Engineer of the Department of Marine and Fisheries of Canada, who, with his chief assistant, Mr. B. H. Fraser, determined from numerous tests the lines along which the diaphone evolved into full-sized fog-signal apparatus in the hands of Mr. J. P. Northey, of Toronto.

The writer first became interested in fog-signal machinery as a subject for scientific investigation in the summer of 1912, when accompanying Professor Howard T. Barnes on a cruise to the Straits of Belle Isle with the object of making a close study of icebergs which in the North Atlantic constitute a serious menace to the safety of navigation. Accommodation was provided on the Canadian Government lighthouse tender "Montcalm" during one of her routine cruises to the Gulf of St. Lawrence. In this way very exceptional facilities were available for the study of the Canadian lighthouse and fog-signal system. It was observed that the note given by the "diaphone" at a distance was very nearly a pure tone. In these circumstances there seemed to be some possibility of devising an instrument for accurately measuring the

sound and of studying in a scientific manner the effect of atmospheric conditions on its propagation. On making a study of the means available for the measurement of sound, it happened fortunately that an instrument was at hand for the purpose as a result of the researches of Professor A. G. Webster, of Clark University. On communicating with Professor Webster with regard to carrying out a scientific study of fog-signal apparatus, he not only offered to supervise the construction of a "phonometer" specially designed to measure the sound from the diaphone, but placed at the writer's disposal the entire experience of the Clark University laboratory in the matter of sound-measuring instruments.

### USE OF PHONOMETER.

Professor Webster's "phonometer" was tried out during a first series of tests carried out with the assistance of Mr. H. H. Hemming at Father Point, Que., in September, 1913. Through the courtesy of the Department of Marine and Fisheries, permission was given to operate the diaphone when necessary for the purpose of the tests. Through the kindness of the Postmaster General authorization was given to make use of the mail tender, "Lady Evelyn," during the experiments. The Webster phonometer proved to be a success from the first and was employed in carrying out a number of acoustic surveys in the neighbourhood of Father Point. In this way much new information was obtained with regard to the behaviour of sound under a variety of weather conditions. It was found that the wind was by far the most important factor in causing the sound to behave in an irregular manner; on some occasions the sound was entirely lost, to be picked up again at a greater distance. These "silent zones" have often been met with at sea and constitute a source of danger if by any chance a mariner should be so unwise as to estimate his distance from a fog-alarm by the loudness of the signal. These silent zones are by no means always present, but occur under special conditions of wind, both at the surface of the sea and in the upper regions of the atmosphere. In general the results of the acoustic surveys showed that the loudness of the sound fell away in a very erratic manner according to weather conditions. It is sometimes asserted in text-books on acoustics that the loudness of the sound should decrease according to the inverse-square law, that is, at double the distance the loudness should be reduced to one-fourth, at triple the distance, to one-ninth, and so on. This "law," which would hold in an ideal atmosphere, perfectly stagnant and free from eddies and inequalities of temperature, was found to be not even approximately true under conditions at sea, even on the calmest days.

### ACOUSTIC EFFICIENCY.

During the 1913 tests, considerable advance was made in another direction, i.e., in the determination of the "acoustic efficiency" of the diaphone. In all branches of engineering dealing with apparatus for converting some form of energy into another, it is of the greatest importance to know the amount lost or wasted in the process. The proportion of power thus wasted can be measured in the case of steam-engines, internal-combustion engines, electric motors, hydraulic and steam turbines and many other forms of machinery. It is obviously the main object of a mechanical designer to keep such losses as small as possible and the history of engineering shows that progress in this respect has followed advances in the development of the theory of the machines under consideration and in the construction of instruments for the precise measurement of the physical quantities involved.

In the case of fog-signal apparatus practically nothing was known respecting the losses of power incurred in the production of sound. In the case of ordinary musical instruments it was

known from the work of Lord Rayleigh, Webster and others that the proportion of power converted into sound was exceedingly small, in many cases less than one part in a thousand. Simple calculations indicated that if the atmosphere were to transmit sound-waves without loss, it would require only about one-third of a horse-power to give a signal audible at 10 miles. As a matter of fact, more than 100 horse-power have to be expended during a blast to give a signal of sufficient power to carry this distance on a specially calm day. In order to obtain some information on the nature of the large losses implied in this statement, the writer determined to attempt to measure by a specially devised method the actual proportion of power converted into sound in the trumpet of the diaphone itself. The method was based on the theory of sound-producing apparatus and was specially worked out for the purpose in hand. In carrying out tests, use was made of sensitive electrical thermometers. Several series of tests gave fairly concordant results. Under normal conditions it was found that about two and a half horse-power of the power supplied could be utilized as sound. This represented about eight per cent of the output of sound which might be emitted from an ideal siren in which all the energy of the compressed air was utilized in the production of acoustic signals.

This was as far as the work had proceeded by the end of September, 1913. Further work was made impossible by the outbreak of the war and the diversion of activities to war problems. On the formation of the Advisory Council for Scientific and Industrial Research, application was made in June, 1917, for a grant to continue the work undertaken in 1913. As soon as assurance was forthcoming that a grant would be available, preparations were made during the summer of 1917 to attack some of the outstanding problems still awaiting solution. As in 1913, permission to carry out the tests was kindly given by the Department of Marine and Fisheries and the use of the pilot tender, C.G.S. "Eureka," was granted for the occasion. It was decided to carry out acoustic surveys with much more complete meteorological data than had been obtained previously. This was made possible through the action of the Meteorological Observatory in delegating Mr. John Patterson to take charge of upper air investigations. With the assistance of Dr. A. N. Shaw, of Macdonald College, numerous records of wind velocity at altitudes of several thousand feet were obtained by sending up small pilot balloons and following their motion by specially designed theodolites. At the same time an acoustic survey was carried out by means of the Webster phonometer with the assistance of Lieutenant E. S. Bieler, who kindly volunteered his services for the work during leave of absence from active service.

It was found that often on the clearest days the wind a few hundred feet from the level of the sea was entirely different in direction and magnitude from that at the surface. Such conditions have an important effect in refracting the sound-waves and, in many ways as yet imperfectly understood, affecting their propagation to a distance.

It is hoped in the future to obtain as complete a series as possible of such combined observations, the graphical representation of which may be expected to be of service to the fog-signal engineer.

### TESTS DURING YEAR 1917.

An important problem which was solved during the 1917 tests was that of studying the quality of the signals given out by the diaphone. When any sound-producing instrument is sounded, it rarely happens, except in the case of specially designed laboratory apparatus, that a pure note of single pitch is generated. The note in most cases is a complex mixture of the fundamental, accompanied by a large number of notes of higher pitch called overtones. The accurate analysis of complex tones has only recently been achieved through the work of Professor Dayton C. Miller, of the Case School of Applied Science of Cleveland, Ohio (U.S.A.). By means of an instrument of his invention called the "phonodeik," Professor Miller has been able to actually photograph sound-waves in the form of a sinuous line on

a photographic film. The analysis of such a record gives exact data as to the relative proportions of acoustic energy contained in the fundamental and overtones, and in this way almost every known musical instrument has been studied in the Cleveland laboratories. On receiving an invitation from the writer to undertake a similar study of the sound from the diaphone, Professor Miller kindly agreed to join the party at Father Point and brought with him the "phonodeik," removed for the first time in its history from the laboratory in which it had been constructed and developed. During four days of strenuous efforts on the part of the entire party in overcoming difficulties incident to working with the primitive facilities available at Father Point, a successful series of films was finally obtained at various distances to nearly three miles. These records brought out a number of interesting and important facts: it was found that the sound from a diaphone unprovided with a trumpet was extremely complex; that the effect of a trumpet of correct design was to concentrate a greater proportion of power in the master tone. During propagation through the atmosphere the high overtones do not travel far but are filtered out, the master tone alone surviving to an appreciable extent at distances greater than two miles. It is obvious, then, that overtones produced by the diaphone represent waste of power and that the chief concern of the designer of such apparatus should be to concentrate all the energy (if possible) into the master tone. Phonodeik records were also obtained of the sound from a small 2-inch diaphone which could be sounded continuously.

Efficiency tests were also carried out on this small diaphone by the thermal method devised by the writer. The results of 1913 were fully confirmed and this means of rapidly measuring the acoustic output of a sound-generating apparatus was reduced to such simplicity that portable apparatus for the use of fog-signal inspectors may easily be designed to carry out such tests. Professor Miller has expressed his conviction that a portable "phonodeik" could be constructed to meet the same requirements. From a thermal test combined with an analysis of a phonodeik record, complete information as to the performance of a fog-alarm may now be obtained. For instance, it is possible to state in horse-power or watts the total acoustic output of a siren as well as to compute the relative proportions of power contained in the master tone and in the overtones. That this may be done as a test is of great importance, as the designer will now be able to pre-determine the behaviour of fog-signal apparatus without having the equipment installed at great expense at some station by the sea. It is to be expected that with such methods of testing available, the development and improvement of sirens will be much more rapid than in the past.

To sum up the results achieved by the tests referred to above, it may be stated that the methods of measuring sound quantitatively and qualitatively have been developed and tested in practice. The acoustic characteristics of a siren may now be determined with fair accuracy in absolute measure, whereas previous to these experiments, an almost complete ignorance existed on these points. Measurements of the intensity of the master tone may now be carried out at distances of several miles and the influence of meteorological conditions on the propagation of sound may be studied in the light of accurate data. These achievements conclude an important chapter in practical acoustic engineering. The next step is to bring these results to bear on the improvement of fog-signal machinery. In spite of war conditions, several inquiries from engineering firms and makers of fog-signal apparatus have been received by the writer for information on points connected with the measurement of sound. It is evident, however, that rapid progress in the design of such apparatus can be made only by the organization of a well-equipped experimental station or laboratory under Government auspices. Not only could the actual construction of new sound-generating apparatus be

[Continued on next page.]







## PENSIONS STILL WAITING

The Board of Pension Commissioners, Ottawa, issues the following list of pensioners whose present addresses are unknown to them. The number with each name should be quoted in any correspondence to the Board dealing with the matter:—

Pte. Albert Gagnon, C.M.G.D. (125718).  
Pte. Germain Sauve, 22nd Battalion (49678).  
Gnr. H. A. Graham, R.C.H.A., (114040G).  
Pte. A. Girard, 31st formerly 55th Battalion (32145).  
Pte. Albert Gubata, 223rd Battalion (18587).  
Pte. John Gates, late 194th Battalion (108015).  
Gnr. Percy Gray, No. 3 D.B., formerly 21st Battalion and 73rd Battery (53561).  
Lieut. Wm. Anderson Grant, No. 11 D.D., formerly 52nd Battalion (47420), formerly 52nd Battalion (47420).  
Gnr. Alexander Grantham, 7th Battery (120699).  
Pte. James Gilligan, 1st D.B.M.R. (111169).  
A-Sgt. Herbert Glover, 46th Battalion and No. 12 D.D. (59329).  
Pte. Dominick Gallucci, 62nd Battalion (43270).  
Spr. J. W. Holmes, late 3rd Tunneling Co. (122893).  
Pte. Thewald Hanson, 1st Div. Employment Co. (129706).  
Pte. Chas. Hounson, 1st C.O.R. (120078).  
Pte. Chas. Jaa. Hawkins, M.R.D. (130487).  
Pte. Flor Harchuk, 44th Battalion, late 144th Battalion (122741).  
Spr. Robt. John Hargrave, Canadian Railway Troops (131807).  
Lt. Edwin F. W. Heath, 2nd C.M.R. (116248).  
Pte. J. Jamieson, 1st D.B. 1st C.O.R. (116833).  
Pte. Thomas G. H. Knightall, 143rd Battalion (30974).  
Pte. J. E. Kelly, 170th Battalion (108053G).  
Pte. Fred Krut, 218th Battalion (123842).  
Pte. John J. Kelly, 143rd Battalion (30300).  
Pte. A. P. I. Larson, 12th D.D. (55025).  
Pte. Richard J. Lynn, 63rd Battalion, formerly 1st C.F.A. (39402).  
Pte. Emile Lambert, 31st, formerly 66th Battalion (38261).  
Pte. Jaa. Lawrence, M.R.D.M.A. Depot Battalion, 90th Draft (130678).  
Pte. Albert F. Strutt, 3rd S.E.Co., formerly 21st Battalion (36100).  
Pte. P. Skricky, 259th Battalion (102417).  
Pte. W. Lyle Stevenson, 187th Battalion (112234).  
Pte. Wm. Scarrett, 12th D.D. (123571).  
Cpl. Blair A. Tainton, 2nd C.G.R. (101123).  
R. Innes Taylor, 36th Regiment (124995).  
Pte. John Vowel, 23rd Reserve Battalion (128669).  
Sgt. Harvey P. Vernon, P.P.C.L.I. (125638).  
Pte. Walter E. West, C.A.M.C. (39022).  
Pte. Sydney B. Walker, 49th Battery (111284).  
Sgt. W. H. Watt, 1st C.M.R. (129495).  
Pte. Ashley Watts, 100th Battalion (131272).  
Pte. George Walker, 157th Battalion (15902).  
Pte. Ashley Watts, 100th Battalion 51st Battalion (54287).  
Bdr. Simon J. Williams, C.A.R.D. (129781).  
James Young, 5th Regt. (121062).  
Mrs. Theresa Zaker, widow of Dvr. R. A. Kimberley, 2nd Tunneling Co., (548).  
Cpl. Bruce Adamson, 1st C.B. (125562).  
Pte. Walter Adams, 137th Battalion (132940).  
Spr. J. A. Buckley, C.R.T.D. (128720).  
Pte. Chas. R. Ballantyne, 20th Reserve (126864).

Pte. Edward D. Baker, B.C.R. (133407).  
Pte. John Bentley, C.A.S.C. (122739 G).  
Pte. Edwin W. Burrows, 6th For Draft (129383).  
Cpl. H. J. Hustow, 78th Battalion (119825).  
Pte. Thos. Burton, C.M.Q.D. (120527 G).  
Pte. Geo. Baker, 46th Battalion (125560).  
Pte. Harry T. Brown, For. and Ry. Con. Depot (106775).  
Pte. John R. Bull, 1st S.R.D. (123263).  
Gnr. Wilfred Carter, 27th Battery (18800).  
Pte. Alex. D. Crone, 195th Battalion (128108).  
Pte. Chas. W. Dwyer, 14th Battalion (130881 G).  
Capt. Walter J. Dowsell, A.M.C. Training Depot No. 11 (130564).  
Pte. Frederic Greentree, S.R.D. (117158).  
Pte. Geo. Hough, 1st Div. Am. Col., formerly 14th Battalion (27195).  
L-Cpl. Herbert L. Huntley, 13th Battalion (128753).  
Cpl. Thos. Gibson Hunter, 12th D.D. (130973).  
Pte. Edward Johnston, No. 10 D.D. (55565).  
Spr. John R. Jackson, 82nd Battalion (104450).  
Pte. Walter E. Jones, No. 12 D.D. (123673).  
Pte. Geoffrey Kimber, No. 3 Forestry Draft (129491).  
Pte. Peter Kraveenko, C.F.C. (125139).  
Pte. Steven Kovalechuk, 144th Battalion and C.F.C. (134117).  
Pte. Dennis F. Knaggs, 128th Battalion (125082).  
Pte. Arnold Leroux, Gen. Depot (129872).  
Pte. Geo. Landrie, 190th Battalion (128744).  
Spr. Archie Lilley, C.R.T.D. (125523).  
Pte. John Legacy, 6th Reserve and P.P.C.L.I. (104858).  
Spr. Wm. Laphan, C.E. (100449).  
Pte. Wm. Lang, 62nd Battalion (124539).  
Pte. Floyd McCutcheon, 66th, 2nd Can. Inf. (180636).  
Pte. Frank Maidment, Welland Canal Force (45839 G).  
Cpl. James Mitchell, 50th and 49th Battalions (33319).  
Pte. Frank W. Munro, 222nd Battalion (125388).  
Gnr. Chas. C. Munn, 7th Brigade (63119).  
Cpl. Chas. H. Mullin, S.R.D. (123756).  
Pte. Jaa. C. McKenzie, 6th Reserve (125676).

Pte. Alex. McDermann, 43rd Battalion (114271).  
Pte. John McMillan, 131st Battalion (101525).  
Pte. Hector McKinnon, 11th Battalion (124193).  
Pte. Harold Nelson, 132nd Battalion and No. 7 D.D. (103988).  
Mrs. E. Ody, widow of Pte. Daniel Ody, 47th, formerly 1st Wor., 2nd R.D. (50786).  
Pte. Chas. M. Perkins, 4th Battalion (14519).  
Pte. Wm. E. Proctor, 49th Battalion (126526).  
Spr. S. J. Price, General Depot (12916 G).  
Gnr. Thos. H. Potter, 8th Brigade (123135).  
Sgt.-Major A. J. Reilly, 1st Depot Battalion (105226).  
Pte. Neil McN. Reid, 4th Battalion, C.R.T. (125188 G).  
Pte. W. Rodewitch, C.F.C. (128216).  
L-Cpl. Thos. E. Shepherd, 15th Res. Battalion (123429).  
Gnr. G. M. Tobin, No. 10 D.D. (102354).  
Pte. Jos. Thunder, No. 12 D.D. (123697 G).  
Pte. S. E. Wrigley, 10th Battalion, C.A.S.C. (134536 G).

HOMESTEAD ENTRIES  
IN WEST INCREASE

During the period ending August 5, there were 204 homesteads entered in the Canadian West, exclusive of soldier grants. Last year there were 117. Nationality of those who made entry: British 53, Canadian 67, American 34, French 1, Scandinavian 3, other European 13, unclassified 33.

## Sumac of Little Value.

Sumac (*Rhus Aëris*) is a small tree with orange-coloured wood streaked with broad green rays. It is of no commercial value, but has been used for decorative panels on small boats. It is a native of southern Ontario, but seldom grows to a twelve-inch diameter, even farther south where it reaches its highest development, as stated in a bulletin issued by the Forestry Branch, Department of the Interior.

War Savings Stamps pay 4½% compounded half-yearly.

RESEARCHES WILL LESSEN  
FOG'S DELAYS AND DANGERS

Improvement of Fog Signal Machinery and Ships' Sirens made possible by Studies in Measurement of Sound carried on in Gulf of St. Lawrence.

[Continued from preceding page.]

undertaken along lines suggested by the results of tests on existing sirens, but the machines and designs of various makers could be subjected to comparative tests and recommendations made with a view to their amelioration. It has been stated that development of the diaphone in recent years in the matter of power has already led to a noticeable diminution in the annual loss of lives due to fog at points where the more modern types have been installed. There is no reason why further progress should not be made in this direction.

## TESTING SHIPS' SIRENS.

An important field of investigation closely related to that of fog-alarm is the testing of ships' sirens. It is needless to recall the large number of accidents and collisions at sea resulting from failure of pilots to hear acoustic signals even at close range. In fact, the standardization of ship-sirens as to penetrating power and pitch is a question which sooner or later will have to be dealt with by the shipping boards of various countries under international agreement.

It has been proposed to issue fog-

signal warnings by submarine acoustic signals, and the results achieved in this direction in the United States lend support to the view that audible signals may be generated more efficiently and will travel with more certainty and to greater distances in water than in air. The attention paid to the development of anti-submarine devices as a result of the war has led to the invention of extremely sensitive receiving microphones. As soon as these achievements in submarine acoustics shall have been made public, their application to navigational problems of all kinds should be undertaken by various government organizations according to some definite program of research. In particular the application of submarine acoustic devices to fog-signal and iceberg problems might well be undertaken in this country as being of special importance to navigation in Canadian waters. In the writer's opinion scientific concentration of these problems with adequate facilities for experimental work at sea would in a few decades more than repay the expenditure incurred, through reduction of the yearly toll in lives and property resulting from accidents at sea.

COMPARATIVE WASTAGE  
IN DIFFERENT ARMS

The supply of reinforcements considered necessary to maintain the Canadian forces in the field up to war strength during the war was based on the statistics of wastage per month for each arm of the service. This wastage from all causes is shown in the following table, which is taken from the report of the Overseas Minister of Militia for 1918:—

	Wastage per month per cent.
Infantry . . . . .	10
Cavalry . . . . .	5
Artillery (field and horse) . . .	3½
Artillery (siege and heavy batteries) . . . . .	3
Machine gunners . . . . .	10
Engineers . . . . .	4
Signallers . . . . .	4
Cyclists . . . . .	5
C.A.S.C. . . . .	3
C.A.M.C. . . . .	3
Veterinary Corps . . . . .	2
Railway Troops . . . . .	3
Labour Group and Infantry Works Company . . . . .	3
Forestry Corps . . . . .	2

Annual Production  
of Mica, 1886-1908.

The following table is taken from a report of the Department of Mines. It shows the value of the annual production of mica in Canada from 1886 to 1908:—

Calendar year.	Value.
1886 . . . . .	\$ 29,000
1887 . . . . .	29,816
1888 . . . . .	30,207
1889 . . . . .	28,718
1890 . . . . .	63,074
1891 . . . . .	71,510
1892 . . . . .	104,745
1893 . . . . .	75,710
1894 . . . . .	45,581
1895 . . . . .	55,000
1896 . . . . .	60,000
1897 . . . . .	70,000
1898 . . . . .	113,375
1899 . . . . .	103,000
1900 . . . . .	100,000
1901 . . . . .	100,000
1902 . . . . .	125,904
1903 . . . . .	177,587
1904 . . . . .	160,777
1905 . . . . .	173,385
1906 . . . . .	302,913
1907 . . . . .	312,500
1908 . . . . .	120,872

BAN IMPORT  
OF CATTLE FROM  
GREAT BRITAIN.

A cable was received from the High Commissioner, London, Eng., recently to the effect that an outbreak of Foot and Mouth Disease had occurred near Kingsbury, Warwickshire.

In view of this the Dominion Department of Agriculture has cancelled all outstanding permits for the importation of cattle, sheep, other ruminants and swine from the United Kingdom for an indefinite period.

War Savings Stamps not only save money but earn it.







# MIGRATORY BIRD TREATY IS SUBJECT OF ADDRESS

Law will build up Resources in Game and Insectivorous Birds and will serve as an Insurance against the Disappearance of many of these Birds from the North American Continent.

During the National Conference on Conservation of Game, Fur Bearing Animals, and other Wild Life, held on February 18 and 19 last, in Ottawa, under the direction of the Commission on Conservation, in co-operation with the Advisory Board on Wild Life Protection, Dr. E. W. Nelson, Chief of the Bureau of Biological Survey, United States Department of Agriculture, delivered an address on the subject of the Migratory Bird Treaty, between Canada and the United States, of the administration of which, as Chief of the Biological Survey, he has charge in the United States. In the interest of a clearer understanding of the aims and objects of the Migratory Birds Convention Act, the address is reproduced below, as follows:—

I assume that it is not necessary to tell this audience anything about the history of the Migratory Bird Treaty for the protection of migratory birds in Canada and the United States. The regulations under the treaty were put in force in the United States the first of August, 1910. At first, although most of the State game commissioners in the country had been heartily in favor of the Migratory Bird Treaty, following the issuance of the Federal regulations, there was a feeling among some of the game commissioners that the Federal authorities might be inclined to unnecessarily interfere with State game affairs and thus weaken their authority and standing in the States. Through correspondence and personal conferences with the State officials, however, only a short time elapsed until a change of sentiment was evident. The State game commissioners became convinced that it was the purpose of the Biological Survey not to work to their detriment, but to assist them as far as possible in building up the game supply of the States, and, through them, the game resources of the country. I am pleased to be able to say that the Biological Survey is now on the friendliest terms of co-operation with the game commissions of practically every State.

## GENERAL LAW COVERING THE COUNTRY.

The advantage of the Federal law in bringing uniformity of seasons over uniform conditions prevail, is becoming more and more apparent not only to the State game officials, but to the sportsmen at large. The States are rapidly modifying their game laws to make their seasons covering migratory birds conform with the Federal regulations. Already more than half the States have brought their laws to conform, and many of the others are taking steps to the same end.

One of the advantages in having laws conform with the Federal regulations was evidenced in one of the States I visited last autumn. At one time, the game commissioners of this State were inclined to hold the opinion that, with its small appropriations for the administration of the Migratory Bird law, the Biological Survey would ask for an unreasonably large amount of co-operation from the States in administering the Federal law. The State game law there had already been made to conform with the Federal regulations under the former Migratory Bird law. Soon after it became evident that the Migratory Bird Treaty Act carried with it real powers of enforcement; it also became obvious that a violation of the State law at the same time was a violation of the Federal law and the violator became liable to prosecution in the

Federal as well as in the State courts. This served greatly to strengthen the hands of the State game commission in enforcing the State law, since violators who had been more or less defiant in regard to the enforcement of the State law, when confronted with the alternative of having their cases taken to the Federal courts for prosecution, decided at once to plead guilty in the State courts. It is apparent that this double liability, to which a game law violator becomes subject, will serve as a strong deterrent against illegal shooting. In the State mentioned the game commission not only lost its feeling that it might be imposed upon by the Federal authorities in requests for co-operation, but urged the Biological Survey to make a considerable number of the State wardens, deputy federal game wardens, in order that the State as well as the Federal law might be more effectively enforced.

## PUBLIC SENTIMENT FAVOURABLE.

There is little doubt but that experience will so thoroughly demonstrate the usefulness of the Federal law in assisting the States in maintaining and building up their game resources and in enforcing the State laws, that the friendly feeling for the Federal law will continually increase. We have been gratified also to receive offers of co-operation from State game officials and expressions of hearty approval from sportsmen, after our first efforts to enforce laws in several of the States in which, heretofore, through the backward state of public sentiment, game laws have been honoured more in the breach than in the observance. One of the greatest effects of the migratory bird law will be in building up a healthy public sentiment for game conservation in many parts of the country where this is much needed, and in this way also it will be of the utmost service to the State game authorities.

The Federal Government—I speak only for the United States of course, but I think the situation is very similar in Canada—desires to interfere as little as possible with the administration of the State game laws, except as the requirements of the Federal law render it necessary. As Chief of the Bureau of Biological Survey, in charge of the administration of this law, it is my earnest desire that we may be as helpful as possible in building up the game resources of the country. This will be to the advantage of all the States. Personally, we gain no benefit from this in Washington other than the satisfaction of doing a good piece of work. We are thoroughly interested in the conservation of game, and have a keen desire to be useful in perpetuating the migratory game supply which, as is well known, previous to the enactment of Federal legislation was rapidly decreasing.

## GAME A VALUABLE NATURAL RESOURCE.

Game is one of the valuable natural resources of all of the States, and there is no question that the Federal law is resulting in the increase of migratory game and of certain useful migratory insectivorous birds. Ever since the original migratory bird law was passed in the United States in 1910, spring shooting has greatly decreased, and every reliance can be placed on the hundreds of reports from all parts of the country that there has been a steady increase of migratory wild fowl. In many of the States, especially in the north, ducks and geese are reported as breeding in places where they have not bred for years, or that there has been a great increase in the number of breeding birds, simply because they were not molested by hunters in spring. Before the Federal law was passed it was difficult for a duck or goose to linger anywhere in the United States without

being killed or hunted away from its resting places, and often it was given no peace until it was driven beyond the Canadian border and far into the north, where people were so scarce that no one was there to molest it. Now many birds may stop to breed in marshy water-holes and ponds in many districts, especially in Minnesota, the Dakotas and other Western States. A letter from the President of the State University of Nevada stated he had lived for many years in the State, and, after the Migratory Bird law was passed, had for the first time, seen wild geese stop and nest in marshy lakes there.

The present season has been an extraordinary one owing to the unusually mild winter. The birds of the autumn migration failed to appear as usual in many of the Middle Western States and ducks were not seen in various localities where, in normal seasons, they have been abundant. As against this, we have reports from different sections of Chesapeake Bay that canvasbacks had appeared in enormous numbers, exceeding anything remembered by most of the local hunters. From other places came reports of enormous flocks of geese and other waterfowl.

## PROHIBITION OF SALE.

One of the most effective regulations for conserving game birds under the Migratory Bird Treaty law has been the prohibition of the sale of migratory game birds throughout the United States. In addition we have made a daily bag limit of twenty-five ducks. Under the Federal law, while no State can make a bag limit exceeding that number, the States retain the right of still further protecting them by decreasing the limit if they so desire, and smaller bags are now in force in numerous States. Under the Federal law, the States are not permitted to exceed the limit set for the protection of migratory birds, but are given the general authority still further to protect them by decreasing the season or the number of birds to be killed within the Federal limits, or entirely to prohibit their being killed.

Some objection has been raised to the Federal limit of twenty-five ducks a day as being too large, but, in view of the right of the States to reduce this number, it appeared advisable not, at first, to make the Federal limit too restricted. Some sportsmen, especially those who maintain large shooting preserves at great expense, held that the bag limit of twenty-five was too small a number. I am pleased to say, however, that these and other sportsmen are continually becoming better conservationists and several friends of the Biological Survey, who are shooting-club members and who had first thought that we were doing an unfriendly thing by establishing the Federal bag limit of twenty-five ducks a day, have since admitted that it was the right thing to do. They are expressing a willingness to forego their former privileges on the admitted grounds that it is necessary if our supply of wild fowl is to be maintained.

The continued transformation on a large scale of marshy lands into farms in the Western United States and in Canada is decreasing the resting places and feeding grounds of migratory wild fowl, and constitutes one of the most serious dangers to the future of these birds. This is not only operating greatly to the detriment of bird life at the present time, but is proceeding at a rate which raises a serious problem for the not distant future.

## SOME SPECIES ALMOST LOST.

The splendid whooping crane, that was formerly so abundant in Western Canada and the United States, is now almost extinct, as is also the trumpeter swan. Their homes have been taken from them by people occupying areas where they formerly bred. Unfortunately their breeding grounds were situated within what has become a great farming region, which is being more and more densely populated and increasingly cultivated, so there appears little hope of saving them. The more insignificant birds, and those which go to the north to breed, have a better chance for the future. Those nesting in the far north will no doubt have abundant breeding grounds into the distant future, the greatest danger to such birds being a lack of food and

resting places in their southern wintering grounds.

Formerly many hundreds of thousands of our geese and ducks wintered in Mexico. Enormous numbers resorted to the lakes in the valley of Mexico, where there were large areas of ideal feeding grounds. Unfortunately the lakes in the valley of Mexico have shrunk to only a small percentage of the size they once had, and the birds that are left are being shot in great numbers for market purposes. The marshy ground about lake Chapala, also on the southern border of the Mexican table-land, formerly constituted a splendid resort for wild fowl, where myriads of ducks, geese, cranes, and other birds passed the winter. The decrease of available marshes, with increased hunting, have sadly reduced the birds there, as well as in many other parts of this region, where they formerly abounded during the winter months. These reductions in the wintering homes of our migratory wild fowl emphasize the urgent necessity for providing, not only breeding reserves, but wintering sanctuaries and feeding grounds for them. Such sanctuaries are especially needed in the United States. We already have two great refuges on the Gulf coast in Louisiana, but others are needed in Texas and in various parts of the Mississippi valley, as well as on both coasts. I rejoice to learn that such refuges are being provided in Southern Canada, places where birds may stop to rest during their migrations and be assured of food and safety from molestation. If a sufficient number of such sanctuaries are not supplied and the drainage and devotion to agriculture and other purposes of the marshy areas continues, migratory waterfowl will diminish despite every effort along other lines to conserve them. It is obvious that these birds cannot exist unless they have sufficient areas in which to resort and feed, and particularly sanctuaries where they may be safe from the persistent harassment that is bound to increase in unprotected areas with the growth of population.

## WILD LIFE SANCTUARIES ESSENTIAL.

One of the most helpful ways in which the people of Canada and the United States can co-operate is through working out a plan whereby sufficient refuges for wild fowl can be provided and maintained on both sides of the border. Preliminary to a thoroughgoing plan for such refuges, a survey is needed to determine the available areas and other relative fitness for the purpose. Such a survey the Biological Survey is now conducting in the United States, taking the work up state by state as we have the means for the purpose. Much useful information has already been obtained.

The violators of the Migratory Bird law have not all ceased their activities. Convictions have already been secured and fines imposed in seventeen cases; about two hundred other cases of violations of the law are ready for presentation to the courts and will be prosecuted as rapidly as possible.

We are making a special effort to stop the killing of the beautiful white herons and the traffic in the aigrettes obtained from them. Owing to the demand for the plumage of these birds for hat ornaments they have been nearly destroyed in many of the states where they were once abundant and among the most interesting and picturesque members of the native bird life. Under the Migratory Bird law these birds are protected, and we are seizing plumes in millinery stores and otherwise working to discourage the destruction of the birds. We are not proceeding against ladies wearing aigrette plumes, although it is unlawful for such plumes to be held in possession. It is considered that, in stopping the killing of the birds and preventing dealers from handling the plumes, this matter may be controlled more successfully, and without the friction which would ensue from taking up the matter with the individual wearers of the plumes, who frequently possess them in entire ignorance of any law against it. We are, however, conducting a publicity campaign to inform the public, and I am pleased to say that some of the organizations of dealers in

[Continued on next page.]







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## EXTRACT FROM ORDER IN COUNCIL No. 2204.

"The Committee of the Privy Council further  
observes that as this war is being waged by the  
whole people of Canada, it is desirable that the  
whole people should be kept as fully informed  
as possible as to the acts of the Government  
which are concerned with the conduct of the  
war, as well as with the solution of our domestic  
problems; and for this purpose an Official Record  
should be instituted to be issued weekly for the  
purpose of conveying information as to all Gov-  
ernment measures in connection with the war  
and as to the national war activities generally."

## PRODUCTION OF SLATE IN CANADA SINCE 1886

Calendar Year.	Quantity.	Value.
1886 <sup>a</sup>	5,345	64,675
1887	7,367	86,000
1888	5,314	90,689
1889	6,935	119,160
1890	6,368	100,250
1891	5,000	65,000
1892	5,180	69,070
1893	7,112	90,825
1894		75,550
1895		58,990
1896		53,370
1897		42,800
1898		40,791
1899		33,406
1900		12,100
1901		9,960
1902		19,200
1903 <sup>b</sup>	5,510	22,040
1904	5,277	23,247
1905		21,568
1906		24,446
1907	4,336	20,056
1908	2,950	13,496
1909	4,000	19,000
1910	3,969	18,492
1911	1,833	8,248
1912	1,894	8,939
1913	1,432	6,444
1914	1,075	4,837
1915	397	2,039
1916	1,202	6,223
1917	1,422	7,899

From 1903 in squares, previously  
in tons.

## Native Chestnut Exhausted.

Chestnut grows only in the southern-  
most parts of Ontario, along the north  
shore of Lake Erie and in the Niagara  
Peninsula, and even there it is not  
found in commercial quantities, most of  
the trees having been cut some time  
ago. This tree is not found farther east  
in Canada. Three-quarters of the  
amount consumed annually is imported  
from the United States, as stated in a  
bulletin issued by the Forestry Branch,  
Department of the Interior.

War Savings Stamps pay 4½%  
compounded half-yearly.

# MIGRATORY BIRD TREATY IS SUBJECT OF ADDRESS

[Continued from preceding page.]

millinery goods are preparing to in-  
form their members and the public of  
the illegal character of dealing in  
aigrette plumes. The losses to the  
dealers of plumes are severe enough,  
so that it will take but a few examples  
to render traffic in aigrette feathers  
highly unpopular. One milliner in Little  
Rock, Arkansas, had \$1,500 worth of  
plumes seized from his stock a short  
time since and was fined for possessing  
them. In another case, a dealer in  
New York had a great number of bird  
skins for hat purposes. On learning this,  
one of our men examined them and re-  
turned a few days later for the purpose  
of seizing them, but the dealer stated  
that he had consulted his lawyer, and, as  
a result, had destroyed the skins. As  
the vast majority of dealers in millinery  
goods are reputable merchants, there is  
no question but, as soon as the fact be-  
comes known that traffic in these bird  
skins and plumes is unlawful, this traffic  
will soon come to an end.

## MIGRATORY BIRD TREATY ACT CONSTITUTIONAL.

It is probable that you are all aware  
of the fact that the constitutionality  
of the original bird law in the United  
States, which was passed in 1913, was  
questioned through a case originating in  
the United States Court in Arkansas.  
While this case was still before the  
Supreme Court of the United States, the  
Migratory Bird Treaty was negotiated,  
and the Migratory Bird Treaty Act and  
regulations put in force. This Act re-  
pealed the old law, and, as a result, the  
Attorney General of the United States  
requested that the old case be dis-  
missed, since, in view of the repealing  
of the law, any continuance of the case  
would be purely for academic purposes.  
The day following the dismissal of this  
case the newspapers came out with the  
statement that the Migratory Bird law  
had been declared unconstitutional by  
the Supreme Court. This statement has  
caused much trouble and a host of in-  
quiries, even including many from Can-  
ada. We have been kept busy ever since  
explaining that the Supreme Court had  
made no decision in the case, and that  
the dismissal had nothing whatever to  
do with the constitutionality either of  
the old or the new law. However, the  
confusion resulting from the misleading  
publicity in the press revived the spring  
shooter in various parts of the country,

and we have had many letters from  
various sections stating that plans were  
being made for spring shooting. As a  
result a considerable number of men  
have been arrested for violating the law,  
who have claimed that the law is un-  
constitutional. Such men will have an  
opportunity of taking up this conten-  
tion with the courts.

## A DRASTIC LESSON.

About a week after the mis-statement  
concerning the action of the Supreme  
Court had appeared in the newspapers,  
81 canvasback ducks were found on  
sale in the market in Washington. They  
were seized and donated to the patients  
in the military hospital, so that there  
was no profit in that transaction for the  
dealer. A Washington restaurant was  
found at this time serving canvasback  
ducks to its patrons. These also were  
seized and a case made against the res-  
taurant and against the man who sold  
the ducks to it. All such cases are  
educational. It does not take dealers  
long to learn that the authorities are in  
earnest in enforcing the law, and the  
great majority of them are ready to  
abide by it. It is probable that it will  
be a long time before it will be possible  
to find another dealer selling ducks in  
the Washington market. The seventeen  
cases in which violators of the Migratory  
Bird Treaty Act have been fined cover  
violators from California to Maine, in-  
cluding many of the intermediate States,  
so that the public has had an opportu-  
nity of being advised as to the enforce-  
ment of the law.

There is no doubt but that a case will  
eventually be brought before the Su-  
preme Court of the United States to  
test the constitutionality of the Migra-  
tory Bird Treaty Act, but we have every  
confidence in its being declared abso-  
lutely constitutional. There was a great  
division of opinion concerning the con-  
stitutionality of the original Migratory  
Bird Act, but a considerable number of  
lawyers who doubted the constitution-  
ality of that Act, after careful inves-  
tigations, have expressed their full con-  
fidence in the constitutionality of the  
present law. We implicitly believe that  
we have a law which will stay on the  
statute-books, and one which will build  
up our resources in migratory birds and  
serve as an insurance against the dis-  
appearance of many of these birds from  
the North American continent.

## POSITIONS VACANT IN CIVIL SERVICE

### Professor and Instructors required for Royal Military College

The Civil Service Commission of  
Canada give notice that applica-  
tions will be received from persons  
qualified to fill the following posi-  
tions on the Superior Staff of the  
Royal Military College, Kingston,  
Ont.:-

A Professor of Engineering. Initial  
salary \$3,480 per annum.

1. A Professor of Engineering at an  
initial salary of \$3,480 per annum, to  
have charge under direction of the En-  
gineering Department of the Royal  
Military College, to instruct in the  
several branches of engineering and to  
direct the work of assistant professors  
and instructors in engineering and sur-  
veying. Candidates should be gradu-  
ates of a school of applied science of  
recognized standing, with at least five  
years of experience in teaching the  
principles of engineering in some ac-  
ademic institution of higher learning,  
preferably with some engineering prac-  
tice in the recent war. They should  
have a thorough theoretical knowledge  
of engineering in all its branches.

An Instructor in Chemistry. Initial  
salary \$1,800 per annum.

II. An Instructor in Chemistry at an  
initial salary of \$1,800 per annum, to  
assist in the Royal Military College in  
teaching and instructing in chemistry.  
Candidates should be not more than 25  
years of age, and be graduates in  
chemical engineering of a school of ap-  
plied science of recognized standing,  
or be honour graduates in chemistry  
with physics as a minor subject, from  
a university of recognized standing.

An Instructor in Physics. Initial salary  
of \$1,800 per annum.

III. An Instructor in Physics at an  
initial salary of \$1,800 per annum, to  
assist in the Royal Military College in  
teaching and instructing in physics.  
Candidates should be not more than 25  
years of age, and should be graduates  
in civil, mechanical or electrical en-  
gineering, or in honour physics with  
mathematics as a minor subject from  
a university of recognized standing.

An Instructor in Civil Engineering.  
Initial salary \$1,800 per annum.

IV. An Instructor in Civil Engineer-  
ing at an initial salary of \$1,800 per  
annum, to assist in the Engineering  
Department of the Royal Military Col-  
lege. Candidates should not be more  
than 25 years of age, and be graduates  
of a school of applied science of recog-  
nized standing, with preferably one or  
two years of experience in engineering  
design or construction work. They  
should have a good theoretical knowl-  
edge of civil engineering in all its  
branches.

Two Instructors in Mathematics.  
salaries \$1,800 per annum.

V. Two Instructors in Mathematics at  
initial salaries at \$1,800 per annum, to  
assist in the Royal Military College in  
teaching and instructing in mathe-  
matics. Candidates should not be more  
than 25 years of age, and should be  
graduates from a university of recog-  
nized standing with honours in mathe-  
matics.

An Instructor in French. Initial salary  
\$1,800 per annum.

VI. An Instructor in French at an  
initial salary of \$1,800 per annum, to  
assist in the Royal Military College in  
teaching and instructing in French.  
Candidates should be not more than 25  
years of age, and should be graduates  
from a university of recognized stand-  
ing, with French as an honour sub-  
ject. They should have a thorough knowl-  
edge of French literature.

An Instructor in English. Initial salary  
\$1,800 per annum.

VII. An Instructor in English at an  
initial salary of \$1,800 per annum, to  
assist in the Royal Military College in  
teaching and instructing in English.  
Candidates should be not more than 25  
years of age, and should be graduates  
from a university of recognized stand-  
ing, with English as an honour sub-  
ject. They should have a thorough  
knowledge of English literature.

## GENERAL DIRECTIONS.

Selections for eligible lists of appli-  
cants qualified to fill similar vacancies  
which may occur in future may be made  
from the applications for these positions.

According to law, preference is given  
to returned soldier applicants, possess-  
ing the minimum qualifications. Re-  
turned soldiers must furnish a certified  
copy of their discharge certificate, or  
in the case of commissioned officers, a  
certified statement of their military  
service.

Applicants should apply in writing on  
their own paper to the Secretary of the  
Civil Service Commission, Ottawa, not  
later than the 6th day of September.  
Applicants must specify the position for  
which they apply and must give full  
particulars as to name, address, age,  
qualifications, experience and previous  
employment. Applications should be  
accompanied by letters of reference  
from three reputable citizens.

By order of the Commission.

WM. FORAN,

Secretary.

## Production of Marble in Canada since 1886.

The production of marble in Canada  
since 1886 is shown in the following  
table which is from the Annual Report  
on Mineral Production during 1917, pre-  
pared by the Department of Mines.

Calendar Year.	Short Tons.	Value.
1886	504	9,900
1887	242	4,224
1888	181	3,100
1889	63	900
1890	780	10,776
1891	240	1,752
1892	240	2,600
1893	550	5,100
1894	Nil	Nil
1895	200	2,000
1896	224	2,405
1897 to 1907 inclusive.	Nil	Nil
1908		120,000
1909		158,441
1910		158,779
1911		162,783
1912		260,764
1913		249,975
1914		132,532
1915		158,027
1916	28,496	118,810
1917	1,490	55,830

Buy Thrift Stamps for children.







## ENEMY LANGUAGE PAPERS IMPOSSIBLE

### Orders in Council still enforced against Objectionable Literature

Since the institution of censorship, at the opening of the war, all literature circulating in Canada has been kept under supervision and the Postal, Customs, Military and Police Departments have co-operated with the Censorship to prevent the circulation in Canada of foreign language literature of an objectionable character.

The Orders in Council at present in force make it impossible for newspapers to be printed in the German, Bulgarian or Turkish languages unless by special license of the Secretary of State, in which case there would have to be parallel columns in English of the exact matter. No enemy language publication, unless it be of a purely literary, scientific, religious or artistic character and free from objectionable matter can be printed in, or imported into Canada. Further, no publications in languages other than English and French can be circulated in Canada without the prompt delivery of a true copy thereof to the Chief Press Censor, Ottawa. Such copies are translated and carefully read with a view of determining their character and during the last session of Parliament very drastic amendments to the Criminal Code were passed by Parliament prescribing imprisonment and heavy penalties to those who printed or circulated matters of a seditious character. The Chief Press Censor has been in daily communication with the Postal, Customs and Police authorities with a view to enforcing the Censorship laws. Samples of foreign language literature have continually passed through the Customs Houses in Canada and have been forwarded to the Chief Press Censor for scrutiny and a large number of publications have been placed under ban and are still under ban.

A certain amount of literature is brought to Canada in bulk by express; the Secretary of the Express Traffic Association is always notified of any changes and rulings in respect to literature of the type referred to.

The Consolidated Orders respecting Censorship assented to on May 22nd, 1918, provide that leaflets or pamphlets relating to the war or to the making of peace are required to have printed thereon the true name and address of the author and of the printer thereof. Newspapers and books require to print the names of the publishers, or the editors or authors in order to comply with the regulations of the Post Office Services in Canada.

#### Shipments of B. C. Lumber.

More than 12,000,000 feet of the British order of 10,500,000 feet of British Columbia lumber is now enroute to England. The representative of the British Government hopes to have 40,000,000 feet on the way over by the end of the year, according to information received by the Department of Immigration and Colonization.

## SUMMARY OF CANADIAN TRADE-FOR JULY.

### IMPORTS ENTERED FOR HOME CONSUMPTION.

	Month of July.				Four months ending July.			
	1918.		1919.		1918.		1919.	
	Free.	Dutiable.	Free.	Dutiable.	Free.	Dutiable.	Free.	Dutiable.
Agricultural and vegetable products, mainly foods.....	2,944,537	6,422,120	3,442,009	9,975,308	14,255,696	25,092,542	11,211,554	23,344,726
Agricultural and vegetable products, other than foods.....	3,267,686	873,083	3,021,907	1,434,447	15,872,973	3,702,954	11,787,081	5,343,355
Animals and animal products.....	924,395	2,002,417	2,231,934	7,153,699	5,307,057	10,108,904	7,718,866	20,045,024
Fibres, textile and textile products.....	7,919,307	8,660,713	4,401,931	9,742,232	29,399,640	30,186,984	16,648,512	31,572,317
Chemicals and chemical products.....	1,724,968	1,645,423	944,358	1,195,554	7,021,779	6,190,174	5,069,448	4,234,432
Iron and steel, and manufactures thereof.....	5,070,154	12,085,087	2,154,698	12,050,069	20,725,193	56,976,248	12,429,598	45,679,484
Other metals and metal manufactures, other than iron and steel.....	1,638,049	2,305,694	1,730,362	2,540,476	5,742,879	9,486,484	5,034,605	9,197,660
Non-metallic minerals, and products.....	2,815,621	8,735,318	5,614,267	5,480,251	15,532,267	31,290,665	15,337,611	19,241,116
Wood, wood products, paper, and manufactures.....	1,821,179	1,535,534	1,906,648	1,734,604	6,105,004	6,243,635	5,804,625	6,451,576
Miscellaneous.....	7,144,443	2,134,697	3,400,377	3,466,757	30,475,104	8,504,794	9,403,539	11,157,803
<b>Total.....</b>	<b>28,620,821</b>	<b>45,251,578</b>	<b>29,400,405</b>	<b>54,831,094</b>	<b>150,417,730</b>	<b>182,992,478</b>	<b>98,445,510</b>	<b>186,451,503</b>
<b>Duty collected.....</b>		<b>13,736,754</b>		<b>13,777,064</b>		<b>55,980,544</b>		<b>53,880,058</b>

### EXPORTS.

	Month of July.				Four months ending July.			
	1918.		1919.		1918.		1919.	
	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.	Domestic.	Foreign.
Agricultural and vegetable products, mainly foods.....	19,163,571	200,504	9,434,664	543,774	98,662,798	708,322	135,884,559	2,010,406
Agricultural and vegetable products, other than foods.....	2,544,162	23,316	2,425,629	282,343	6,383,612	181,328	7,715,013	874,019
Animals and animal products.....	17,474,398	470,201	12,003,122	723,411	50,545,645	1,219,747	87,116,876	3,226,867
Fibres, textile, and textile products.....	2,407,246	23,632	2,014,741	543,781	9,440,512	129,042	7,093,608	1,920,838
Chemicals and chemical products.....	5,173,584	118,773	1,255,621	390,050	14,752,259	513,894	6,560,278	2,171,199
Iron and steel and manufactures thereof.....	4,365,397	643,141	6,300,399	1,158,276	18,401,246	2,517,243	20,087,396	2,587,884
Other metals and metal manufactures, other than iron and steel.....	7,613,362	26,473	5,012,563	385,883	28,167,764	178,094	14,949,134	541,111
Non-metallic minerals, and products.....	2,254,457	284,872	1,766,852	27,183	7,981,832	981,191	6,501,403	202,169
Wood, wood products, paper, and manufactures.....	15,557,997	28,324	17,702,067	49,174	54,820,145	167,343	51,574,488	114,409
Miscellaneous.....	27,538,253	249,403	15,871,242	808,419	73,035,118	1,089,205	13,801,140	2,357,545
<b>Total.....</b>	<b>103,019,447</b>	<b>1,965,638</b>	<b>113,787,099</b>	<b>4,972,296</b>	<b>361,692,926</b>	<b>7,619,431</b>	<b>357,883,897</b>	<b>16,006,447</b>

### RECAPITULATION.

	Month of July.		Four months ending July.		Month of July, 1919.
	1918.	1919.	1918.	1919.	
	\$	\$	\$	\$	\$
Merchandise entered for consumption.....	82,882,400	84,281,499	333,410,208	294,897,013	Imported..... 683,619
Merchandise, domestic, exported.....	103,019,447	118,787,099	361,692,926	357,883,897	Exported..... 339,606
<b>Total.....</b>	<b>185,901,847</b>	<b>196,068,598</b>	<b>695,103,134</b>	<b>642,780,910</b>	
Merchandise, foreign, exported.....	1,965,638	4,972,296	7,619,431	16,006,447	
<b>Grand total, Canadian trade.....</b>	<b>187,867,500</b>	<b>203,040,894</b>	<b>702,722,565</b>	<b>658,787,357</b>	

### COIN AND BULLION.

## REPORT SHOWS MOVEMENTS OF GRAIN

### Figures Given of Shipments by Rail and Steamer

The Department of Immigration and Colonization have received the following regarding the inspection, storage and shipment of grain, from

their Winnipeg office under date of August 15:—

In store Government interior elevators, Moosejaw, 220,693 bushels; Saskatoon, 178,513 bushels; Calgary, 148,653 bushels.  
In store C.P. interior elevators, 1,882,147 bushels; 1918, 882,455 bushels.  
In store all elevators at Lake Front, 4,903,331 bushels.  
Inspected since September 1, 1918:—  
Wheat. Other Grains. Total.  
1918. 124,612,809 51,344,330 175,957,050  
1917. 153,036,000 78,984,550 232,020,550

Grain shipped by rail since September 1, 1918: C. P. tracks, 7,562,519 bushels; Lake Front, 9,436,726 bushels.  
Grain shipped by boat and rail since September 1, 1918: C. P. tracks, 73,309,346 bushels; Lake Front, 112,551,652 bushels.

Grain shipped by boat since opening navigation, April 1, 1919: C. P. tracks, 27,682,118 bushels. Lake Front, 51,563 bushels.

Cars grain unloaded at Fort W since September 1, 1918, 61,411, 174,216; 1916, 101,075.







## CONSIDERABLE OUTPUT OF MICA IN CANADA

Report shows Production  
mostly comes from  
Two Fields

The total shipments of mica by mine operators in 1917 were 1,166 tons valued at \$368,861, or an average of \$307.76, as compared with shipments in 1916 of 1,308 tons, valued at \$255,239, or an average of \$211.59 per ton. By provinces the production was from Quebec, 744 tons valued at \$288,730, or an average of \$370.45 per ton; Ontario, 392 tons valued at \$73,121, or an average of \$183.98 per ton.

The statistics as to the value of production should be considered with due regard to the conditions under which the industry is conducted. The condition in which mica is shipped from the mines varies greatly; one operator may ship his output cleaned and trimmed, while the output of another is in a rough, cobbled state, with consequent noteworthy difference in prices realized. And further companies operating trimming shops as well as mines and place only nominal value on shipments from mines, to trimming shops.

### MOSTLY MINED NEAR OTTAWA.

Most of the various minerals of the mica group have been found in Canada. Lepidolite occurrences have been noted in British Columbia, Nova Scotia, and Quebec; biotite occurrences in Ontario and Quebec; muscovite occurrences in British Columbia, Manitoba, Nova Scotia, Ontario, and Quebec; and phlogopite occurrences in Baffinland, Ontario, and Quebec. Only the phlogopite (or amber mica) occurrences of Ontario and Quebec have proven to be of economic interest. These have been the subject of special investigation by the Mines Branch, Ottawa. The muscovite occurrences at Tête Jaune Cache, and Big Bend in British Columbia have also been specially investigated by the Mines Branch, but as yet they have made no production.

Canada's production of mica has come exclusively from two fields; one, in the province of Quebec, a short distance to the north of the city of Ottawa, and the other embracing parts of the counties of Lanark, Leeds, and Frontenac, in the Province of Ontario. The city of Ottawa (and the adjacent city of Hull), lying between these two fields is the centre to which almost all the production of these various mines and numerous small prospects is shipped for trimming, grading and marketing. In preparation for the market a considerable proportion of the tonnage received is cobbled out and the mica split, trimmed, and otherwise manufactured, with the result that the exports, though of smaller tonnage than the shipments from the mines, usually exceed them in value.

According to Customs records the exports of mica in 1917 were 656 tons valued at \$451,348. In 1916 the total exports were 654 tons, valued at \$379,720, of which 119 tons valued at \$61,913 were exported to Great Britain; 523 tons valued at \$296,221 to the United States; and 2 tons valued at \$1,556 to other countries.

### Large Wool Shipments.

Five carloads wool, weighing more than 120,000 pounds, have been shipped from Edmonton during the past three weeks by Alberta Provincial Sheep Breeders' Association. Expected that wool shipments from Edmonton will reach 145,000 pounds, according to information received by the Department of Immigration and Colonization.

### Use 34 Different Woods.

A total of thirty-four different kinds of wood are reported as having been used by the wood-using industries of Ontario, according to a bulletin issued by the Forestry Branch, Department of the Interior.

## PRODUCTION AND VALUE OF CREAMERY BUTTER BY PROVINCES

(From the Report on Dairy Factories, in the Census of Industry Series, prepared and issued by the Dominion Bureau of Statistics.)

### A—CREAMERIES.

Province.	1915.	1916.	1917.	1915.	1916.	1917.
	lb.	lb.	lb.	\$	\$	\$
Prince Edward Island	532,516	613,890	613,530	121,000	124,164	205,200
Nova Scotia	1,340,463	1,686,679	1,746,682	345,011	505,000	711,420
New Brunswick	729,953	664,781	498,173	217,937	221,102	200,000
Quebec	26,121,285	26,094,801	26,726,528	8,880,169	9,920,105	11,440,000
Ontario	20,022,559	22,417,377	26,296,847	7,120,403	7,627,708	10,440,000
Manitoba	6,830,657	6,574,810	7,000,921	1,682,503	2,006,100	2,440,000
Saskatchewan	3,811,014	4,310,000	4,220,758	1,055,000	1,226,100	1,500,000
Alberta	3,221,964	4,276,700	4,568,086	891,647	1,226,100	1,500,000
British Columbia	1,304,000	1,343,393	1,301,640	451,724	497,314	450,747
Canada	38,736,880	73,738,710	78,245,260	28,992,800	32,671,045	39,390,293

### C—COMBINED FACTORIES.

Province.	1915.	1916.	1917.	1915.	1916.	1917.
	lb.	lb.	lb.	\$	\$	\$
Prince Edward Island	-	-	41,945	-	-	10,740
Nova Scotia	-	-	-	12,001	15,000	-
New Brunswick	46,558	46,161	67,938	2,554,701	1,584,000	-
Quebec	8,000,256	4,834,474	5,685,934	494,200	304,200	-
Ontario	1,301,051	1,302,723	1,694,509	-	-	-
Manitoba	-	-	-	-	-	-
Saskatchewan	-	-	-	-	-	-
Alberta	4,322,124	4,346,084	3,945,875	1,120,000	1,390,000	2,000,000
British Columbia	-	-	28,007	-	-	20,000
Canada	14,369,934	10,586,411	11,890,266	4,668,900	3,398,200	4,040,000

### D—CONDENSED MILK FACTORIES.

Province.	1915.	1916.	1917.	1915.	1916.	1917.
	lb.	lb.	lb.	\$	\$	\$
Canada, (Ontario and P.E.I.)	-	-	773,000	-	-	200,000

### E—ALL FACTORIES.

Province.	1915.	1916.	1917.	1915.	1916.	1917.
	lb.	lb.	lb.	\$	\$	\$
Prince Edward Island	532,516	613,890	605,271	121,000	124,164	205,200
Nova Scotia	1,340,463	1,686,679	1,746,682	345,011	505,000	711,420
New Brunswick	729,953	664,781	498,173	217,937	221,102	200,000
Quebec	26,121,491	26,122,773	26,722,542	8,880,169	9,920,105	11,440,000
Ontario	26,414,120	24,090,109	28,714,382	7,530,000	8,200,000	10,940,000
Manitoba	6,830,657	6,574,810	7,000,921	1,682,503	2,006,100	2,440,000
Saskatchewan	3,811,014	4,310,000	4,220,758	1,055,000	1,226,100	1,500,000
Alberta	7,544,148	8,521,704	8,945,971	2,021,445	2,612,340	3,000,000
British Columbia	1,304,000	1,343,393	1,301,640	451,724	497,314	450,747
Canada	58,901,428	69,594,130	67,294,260	24,328,020	28,992,800	39,390,293

## STATISTICS ON BREAD PRODUCTION AND COST

### Bakers' Reports for Month of June Show Slight Increase

The Cost of Living Commissioner presents the following report on bread production for the month of June, to the Hon. Glendon Robertson, Minister of Labour, remarking as follows:—

The consumption of bread does not show any marked increase in general, though Ottawa reports an increased output, probably accounted for by the greater number of visitors to the capital. Labour troubles appear to have caused a shrinkage of nearly 20 per cent in the output of Winnipeg. Montreal and Toronto show slight decreases in quantity of bread manufactured.

From all the facts before me, I conclude that the high cost of other commodities has not led our people to substitute bread at the present prices for other lines of food. I believe I am justified in saying that our leading bakers

are turning out a quality of bread not surpassed by any; palatable, nutritious, and satisfactory.

The average cost of flour used figures out the small increase of 3 cents per barrel, accounted for practically by the quality of the grade used, as flour prices have been stationary.

A comparison of the costs in May and June shows in twelve districts fractional increases, while eleven work out decreases, and four districts are without change. In the total average for the Dominion there is an increase in the cost of about one-eighth of one cent per pound.

An analysis of the cost per barrel of flour, producing 245 pounds of bread, shows as follows:—

	May.	June.
Flour . . . . .	\$10.76	\$10.79
Ingredients . . . . .	1.40	1.40
Baking . . . . .	1.81	1.80
Delivery . . . . .	2.80	2.83
Management and fixed . . . . .	1.41	1.50
Total . . . . .	\$18.24	\$18.61

From this I note the baking cost has increased 3 cents per barrel, delivery 3 cents, while management and overhead charges show an increase of 13 cents per barrel, and the question is: Have these latter charges been unduly raised?

### Output Shows Increase.

The annual report of the Mines of British Columbia shows that mineral production for 1918 was \$782,474, as compared with \$740,000 in 1917, an increase of \$42,474. Of this \$2,954,313 accounted for by increased coal production. Coal shipped to Vancouver Assay Office for July amounted to \$410,573, compared with \$400,000 during corresponding period last year, as reported by the Winnipeg office of the Department of Immigration and Colonization.

### Oxalic Acid from Wood Waste.

Finely ground wood, fused with caustic soda forms sodium oxalate from which oxalic acid may easily be produced. The manufacture of this product may prove profitable, though the restricted market would be against it. A very little wood used in this way would produce all the oxalic acid used in the country. Almost any species of wood is suitable, according to a circular issued by the Forestry Branch, Department of the Interior.

War Savings Stamps not only save money but earn it.







## POSITIONS VACANT IN CIVIL SERVICE

### Secretary of Board of Pension Commissioners required

Under date of August 14th, the following list of positions, vacant in the Civil Service is published by the Civil Service Commission:—

**Secretary of the Board of Pension Commissioners.** Salary \$4,000 per annum.

I. A Secretary of the Board of Pension Commissioners at an initial salary of \$4,000 per annum. Candidates should have a good education, and several years of experience in a secretarial capacity, or in business administration. They should have, in particular, ability to manage, direct and co-ordinate the work of a large staff. Good address, tact, and agreeable personality are desirable qualifications.

An Entomologist, Dept. of Agriculture, B. C. Salary \$2,250 per annum.

II. An Entomologist for the Division of Forest Insects, Entomological Branch, Department of Agriculture, at an initial salary of \$2,250 per annum. The appointee will be required to take charge of the forest insects investigations in British Columbia. Candidates must have the equivalent of a university training in entomology, with special knowledge of the classification and bionomics of the forest insects and particularly the bark-beetles and wood-boring insects of western America. They should have at least three years in directing control operations for bark-beetle outbreaks in western forests and a knowledge of lumbering operations as conducted in British Columbia. Candidates must have ability to complete and prepare for publication the results of original investigations. They should have a thorough knowledge of woodcraft and should be in good physical condition.

Two Resident Architects for Sask. and Alta., Dept. of Public Works. Salaries \$2,250 per annum.

III. Two Resident Architects, one for Alberta with headquarters at Calgary, and one for Saskatchewan with headquarters at Regina, Department of Public Works, at initial salaries of \$2,250 per annum. Candidates must have education equivalent to high school graduation, and either graduation in architecture from a school of applied science of recognized standing, with three years of experience in architectural design, estimate and construction work, two years of which shall have been in a position of professional responsibility, or five years of experience in architectural design, estimate, and construction work, two years of which shall have been in a position of professional responsibility. Candidates should have tact, good judgment, and ability to manage men.

A Junior Engineer, Welland Ship Canal. Salary \$1,600 per annum.

IV. A Junior Engineer for the office of the Welland Ship Canal Construction Staff, Department of Railways and Canals, at an initial salary of \$1,600 per annum. Candidates must have education equivalent to high school graduation, and either graduation in engineering from a school of applied science of recognized standing, with two years of engineering experience, or four years of engineering experience in design, estimate, construction, and maintenance work. The appointee will be required, under direction, to make surveys, supervise engineering construction and repairs, to make computations in connection with engineering work, and to perform other related work as required. This position was advertised April 16th, and is now re-advertised.

## MINERAL PRODUCTION IN CANADA SINCE 1886

(From the Annual Report of the Mineral Production of Canada during 1917, recently published by the Department of Mines.)

Year.	Value of production.	Value per capita.	Year.	Value of production.	Value per capita.
1886.	10,331,305	2.33	1902.	63,331,836	11.26
1887.	10,331,331	2.33	1903.	61,740,515	10.43
1888.	12,515,954	2.67	1904.	60,082,771	10.37
1889.	16,813,113	3.68	1905.	69,078,999	11.49
1890.	16,763,359	3.65	1906.	79,276,697	13.81
1891.	18,576,616	3.99	1907.	86,826,302	15.75
1892.	16,626,415	3.39	1908.	85,557,101	15.16
1893.	20,026,062	4.04	1909.	91,831,441	16.70
1894.	19,331,156	3.98	1910.	106,826,623	19.68
1895.	20,503,917	4.06	1911.	108,239,504	19.47
1896.	22,474,256	4.38	1912.	120,046,236	21.27
1897.	24,485,923	4.69	1913.	145,634,812	26.77
1898.	28,412,431	5.37	1914.	139,863,075	25.96
1899.	40,234,083	7.37	1915.	137,108,171	25.42
1900.	64,430,577	12.04	1916.	177,301,634	32.42
1901.	66,797,911	12.16	1917.	189,646,831	34.12

An Irrigation Specialist, Dept. of the Interior, Calgary. Salary \$1,600 per annum.

V. An Irrigation Specialist for the Reclamation Service of the Department of the Interior at Calgary at an initial salary of \$1,600 per annum. Candidates must have an education equivalent to graduation in agriculture from a school of recognized standing. They should have a knowledge of irrigation problems, and at least one year of experience as Irrigation Assistant or in work of equivalent character and standard. They should have ability to plan and lay out works for water distribution over fields. They should have also supervisory ability.

A Collector of Customs, Dept. of Customs, Brockville. Salary \$1,600 per annum.

VI. A Collector of Customs for the Port of Brockville, Ontario, in the Department of Customs, at an initial salary of \$1,600 per annum. Candidates graduation from a high school or business college. They must have at least two years of customs experience, preferably at a customs port, or experience of equivalent character and standard. They must be familiar with office methods and the elements of book-keeping, a knowledge of the Customs Act, and of customs tariff rates, regulations and procedure. It is expected that the appointee will be required to act as registrar of shipping, and he must, therefore, have a knowledge of the Merchant Shipping Act, the Canada Shipping Act, and the official book of instructions to registrars. Candidates should have supervisory ability, tact and good judgment in dealing with the public. Applicants must be residents of the province of Ontario.

A Senior Supervisor of Cane Testing, Dept. of Agriculture. Salary \$1,800 per annum.

VII. A Senior Supervisor of Cow Testing, to take charge of the Dairy Record Work, in the Department of Agriculture, at an initial salary of \$1,800 per annum. Candidates must have education equivalent to graduation in agriculture from a college of recognized standing, preferably with specialization in dairy husbandry. They should have at least two years of experience in the manufacture of butter and cheese, the testing of milk, and the handling of dairy cattle. They should have ability to prepare articles and address the public, and should also have organizing and supervisory ability.

Two Inspectors of Dairy Products, Dept. of Agriculture, at Calgary and Regina. Salaries \$1,600 per annum.

VIII. Two Inspectors of Dairy Products, Department of Agriculture with

headquarters at Calgary and Regina respectively, at initial salaries of \$1,600 per annum. Candidates must have at least a primary school education. They must be familiar with the manufacture of butter, cheese, and oleomargarine, and must have a knowledge of the laws governing their manufacture and sale. Candidates must have good judgment as to the quality of dairy products.

A Junior Seismologist, Dept. of the Interior. Salary \$1,500 per annum.

IX. A Junior Seismologist, Department of the Interior, at an initial salary of \$1,500 per annum. Candidates must have education equivalent to graduation from a university of recognized standing, with specialization in mathematics and physics. They should have at least two years of experience with physical apparatus.

A Junior Magnetician, Dept. of the Interior. Salary \$1,500 per annum.

X. A Junior Magnetician for the Dominion Observatory, Department of the Interior, at an initial salary of \$1,500 per annum. Candidates must have education equivalent to graduation from a university of recognized standing, with specialization in mathematics and physics. They must be familiar with problems in terrestrial magnetism. Exactitude is a desirable qualification.

An Assistant Inspector of Electricity and Gas for Hamilton, Dept. of Trade and Commerce. Salary \$1,260 per annum.

XI. An Assistant Inspector of Electricity and Gas for Hamilton, Ontario, Department of Trade and Commerce, at an initial salary of \$1,260 per annum. Applicants should have education equivalent to graduation from a technical high school, and preferably university training in science. They should have at least two years of experience in the manufacture or testing of electric and gas meters and equipment, or experience of equivalent character and standard. A qualifying examination in electricity will be held in connection with the filling of this position, and applicants will be informed later of the conditions of the examination. Candidates must be residents of the province of Ontario.

A Lantern Slide Artist, Dept. of the Interior. Salary \$1,200 per annum.

XII. A Lantern Slide Artist for the Natural Resources Intelligence Branch of the Department of the Interior, at an initial salary of \$1,200 per annum. Candidates must have education equivalent to high school graduation and should be preferably graduates with high standing from a recognized school of art, with specialization in colour work. They should have at least two years of experience in art work, and

ability to draw in ink or colour, scientific specimens from nature, or from sketches or photographs. They should have ability to design and paint decorative notices and to perform other related work as required.

A Male Junior Examiner, Civil Service Commission. Salary \$1,600 per annum.

XIII. A Male Junior Examiner, Examination Branch, Civil Service Commission, at an initial salary of \$1,600 per annum. The appointee will be required to assist in the preparation advertising, conduct and rating of written, oral and practical examinations; both personally and in co-operation with experts in various fields to perform clerical work incident to recording the results of examinations; to maintain the Civil Service records; and to perform other related work as required. Candidates must have the equivalent of a high school education and must show such experience as will give reasonable assurance that they can undertake such duties as are listed above; they must be of good address, tactful, possessed of good judgment and able to meet and deal with the public and departmental officials. Initiative and executive and constructive capacity must be shown and integrity and trustworthiness are essential qualifications. Preference will be given to candidates with university training.

The examination will consist of three parts rated as follows:—(1) Education and experience, 40; (2) Questions on problems relating to the duties of the position, 30; (3) Oral interview, 30. The second part of the examination will be given only to those who have shown that they possess the minimum qualifications in education and experience. Those successful in the first two parts of the examination will be assembled later at one or more points for oral interview.

This position was advertised July 10, and is now re-advertised. Applications received to date are still under consideration, and candidates who have already entered this competition need not duplicate their applications.

### GENERAL DIRECTIONS.

The salaries for the above positions may be supplemented by such bonus as may be provided by Parliament.

Selections for eligible lists of applicants qualified to fill similar vacancies which may occur in future made from the applications for these positions.

According to law, preference is given to returned soldier applicants possessing the minimum qualifications. Returned soldiers must furnish a certified copy of their discharge certificate, or in the case of commissioned officers, a certified statement of their military service.

In the case of positions numbers, II, III, IV, V, and VIII, attention is drawn to the fact that appointments to these positions shall be made, so far as practicable, from bona fide residents of the province in which the position is situated.

Application forms properly filled in, must be filed in the office of the Civil Service Commission not later than September 15. Application forms may be obtained from the offices of the Employment Service of Canada or from the Secretary of the Civil Service Commission, Ottawa.

By order of the Commission,  
W. FORAN,  
Secretary.

### Homestead Entries in West.

During the period ending August 12, there were 274 homesteads entered, not including soldier grants. Last year there were 271. Nationality of those who made entry: British, 85; Canadian, 93; American, 61; French, 1; Scandinavian, 10; other Europeans, 13; unclassified, 3, as reported by the Winnipeg office of the Department of Immigration and Colonization.

War Savings Stamps pay 4½% compounded half-yearly.







## DREW LOTS FOR ENTRY TO NEW WESTERN LANDS

*System of Drawing for Homestead Entry Used for First Time in Canada in Opening Reserve to Soldiers.*

### SYSTEM WORKED WELL

The latest figures handed out by the Soldier Settlement Board show that up till the 26th of July the Board had approved 6,620 loans aggregating \$31,311,425.

The figures of the Agricultural Training Branch of the Board indicate that 25,722 applications had been received, of which 19,558 had been approved.

The greatest activity, of course, is in the four Western Provinces. Alberta reports 6,312 applications; Saskatchewan 5,683; British Columbia 4,428; Manitoba 4,191. Looking more closely into these figures, it is seen that the Edmonton office of the Board has 3,026 applicants to 6,686 for Calgary, while Winnipeg holds the record as the most active single Branch of the Board with 4,191 applications. There is but one office in Manitoba, while Alberta has two and Saskatchewan three. The Toronto office shows 2,486 applications.

### OPENING OF THE PORCUPINE.

A unique feature of the opening of the Porcupine Reserve early in July was the system followed of establishing the order in which settlers were dealt with. On many previous occasions when free lands were to be allotted, there has been a wild rush of applicants, and many a story has been told of prospective settlers camping on the doorstep of the Land Office for days in advance of the opening. In the opening of the Porcupine the places in the line were won by drawing; it being the first occasion in which drawing for entry has been adopted in connection with Dominion land in Canada. The system worked very smoothly. The applicants were required to register at the office of the District Superintendent at Prairie River. Each applicant was required to produce an Attestation Certificate or a Qualification Certificate from the Soldier Settlement Board. Registration by proxy was not accepted. As each eligible applicant registered he was given a card which was placed in an envelope, sealed and dropped by the applicant into a churn.

Where more than one applicant, and not exceeding four, wished to settle together, they were registered as one unit and the name of each was placed on the card. On the day of the drawing the churn was closed. Forest Ranger McNab was chosen by the men themselves to operate the churn and to make the drawing. After the churn was turned vigorously and the envelopes well shaken up it was opened by McNab. The first place was drawn by J. Pinkstone of Winnipeg.

After the drawing the Prince Albert Loan Board, which was on hand, dealt with the applications for loans, and during the day the sum of \$13,000 was approved; and officials of the Board were on the spot to authorize the purchase of equipment, such as horses, wagons, and farm implements. The Qualification Committee also dealt with twenty cases which had not been previously qualified.

The opening of the Reserve was an unqualified success and the men are very enthusiastic about their prospects. The co-operation of the Provincial Govern-

## TENDERS ASKED FOR BY THE DOMINION GOVERNMENT

Firms desirous of tendering for any Government Supplies should apply to the War Purchasing Commission, Booth Building, Ottawa, giving particulars of the business in which they are engaged and a list of the articles they wish to supply.

Tenders are constantly being invited by the different departments of the Government, tender forms and specifications being distributed by mail to all individuals or firms concerned, known to the Commission.

The War Purchasing Commission keeps a register of the different firms and lines of business they are interested in, and it is, therefore, advisable that those wishing to have tender forms sent them should register their names, addresses, catalogues, etc., with the War Purchasing Commission, which co-operates with all other departments.

Tenders have been invited by the different departments of the Dominion Government between August 16 and 22, as follows:—

DEPARTMENT OF SOLDIERS' CIVIL RE-ESTABLISHMENT—			
Article.	Point of delivery.		Date due.
Kitchen equipment	Balfour	Aug. 28	
Rubber tips	Toronto	" 29	
Abolition room mirrors	"	" 29	
Electric motor	"	" 29	
Electric freezer	"	" 29	
Ice crusher	"	" 29	
Bread	Newmarket	" 30	
"	Toronto	" 30	
Butter, eggs	"	" 30	
"	Quelph	" 30	
"	Kitchener	" 30	
"	Newmarket	" 30	
Fish	Quelph	" 30	
"	Toronto	" 30	
Fresh meats, etc.	"	" 30	
"	Newmarket	" 30	
"	Quelph	" 30	
"	Kitchener	" 30	
Coal	Kingston	" 30	
"	Kitchener	" 30	
"	River Glade	" 30	
Milk, cream, etc.	Toronto	" 30	
"	Newmarket	" 30	
"	Kitchener	" 30	
Stop drill	Montreal	" 30	
Screw-cutting engine lathe	Toronto	" 30	
Horizontal crank shaper	"	" 30	
Elu motors	Montreal	" 30	
Reed	Winnipeg	" 30	
Diet kitchen	St. John, N.B.	" 30	
Canned fruits and vegetables	Ottawa	" 30	
Paints and oils	"	" 30	
Shellac	Toronto	" 30	

DEPARTMENT OF JUSTICE (PENITENTIARIES BRANCH)—			
Wood	Stony Mountain	Aug. 28	
Coal	Prince Albert	" 28	
Boiler tubes	"	Sept. 2	
Plumbing	Edmonton	" 4	

PUBLIC PRINTING AND STATIONERY (STATIONERY BRANCH)—			
Wire waste baskets	Ottawa	Aug. 28	
Powdered ink	"	" 28	
Metal cabinet perforators	"	" 28	
Kraft envelopes	"	" 28	
Binding cases	"	" 28	
Blotting cases	"	" 28	
Gem clips	"	" 28	
Window envelopes	"	" 28	
Books	"	" 28	
Higgins ink	"	" 28	

DEPARTMENT OF PUBLIC WORKS—			
Firemen's Axes	Ottawa	Aug. 28	
Galvanized iron pails	"	" 28	

DEPARTMENT OF MILITIA AND DEFENCE—			
Bread	Moosejaw, Sask.	Aug. 28	
Milk	Reesthaven Military Hospital	Sept. 2	
Coal	Halifax	Aug. 28	
Veal	Toronto	" 28	
Hospital extras	"	" 28	
Canned pears	Cobourg	" 28	
Canned peaches	"	" 28	
Bread	Montreal	" 28	
Bakers' flour	Kingston	Sept. 2	
Coal	Toronto	Aug. 28	
Canned corn	"	" 28	
Canned tomatoes	"	" 28	
Milk	Qualicum Beach	" 31	
Leather belting	Ottawa	" 28	
Rubber tubing (corrugated)	"	" 28	
Recales	"	Sept. 1	
Methyl alcohol	"	" 29	
Medical supplies	"	" 27	
Carriers (bed)	Calgary	Sept. 3	
X-Ray supplies	Toronto	" 29	

ment was shown when a wire was received to the effect that it had authorized a steel bridge over the Red Deer

river and a timber bridge over the Copeau river; also a wagon road from the Prairie river to the Copeau.

## WEEKLY REPORT EMPLOYMENT IN TWO PROVINCES

*Slight Increase Shown in Week Ending August 16. Outlook is for Further Gains.*

### CONDITIONS IMPROVE

Weekly reports from employment in Ontario and Quebec to the Employment Service of Canada of the Department of Labour indicate that, apart from unemployment due to strikes, there was a further increase in the volume of employment in those provinces during the week ending August 9:—

Considerable increase in the volume of employment during the week ending August 2 was indicated by the reports for that week and the slight increase for the week ending August 9, while not as great as anticipated, was a natural sequence to the large number of that week.

Reports for the week ending August 2 showed that 2,684 Ontario manufacturing firms with a payroll of \$1,000,000 or more increased their staffs by 241 persons, or 2.3 per cent, and anticipated a further increase during the week ending August 16, of 1,071, or 3 per cent.

Returns for the week ending August 2, showed that 2,680 firms with a payroll of \$44,348 increased their staffs by 2,410 persons, or 1 per cent. The anticipated increase on August 9 was 1,071 persons or 4 per cent, which was within the actual increase for that week of 3 per cent.

During the week ending August 9 the plus industries (those that registered net increases in the number of persons employed) were building and construction, registering an increase of 1.5 per cent; commercial and business trades, 1 per cent; lumbering, 1 per cent; leather, 1 per cent; metal, 1 per cent; textiles, 1 per cent; wood, 1 per cent; quarrying and mining, 1.5 per cent; and miscellaneous, 1 per cent. All these groups, with the exception of vehicles and railway construction, anticipated making further gains during the week ending August 16, the greatest gains being expected in building and construction; textiles, woodworking and quarrying.

The minus industries (those that registered net decreases in the number of persons employed) were: chemicals, registering a decrease of 2.5 per cent; food, drink and tobacco, 1.5 per cent; pulp, paper and printing, 1.5 per cent; railway operation, 1 per cent. The woodworking, and clay, glass and stone products, showing practically no change. With the exception of chemicals all these groups expected to make nominal increases during the week ending August 16. The food, drink, and tobacco expected a gain of 1.5 per cent; the pulp, paper and printing, 1 per cent; woodworking materials, 1.5 per cent; and railway operation, 1 per cent.

### How Tannin is Obtained

Tannin is obtained from the leaves, bark and wood of a great many trees, but only a few of these (practically only hemlock and a couple of species of oak) are used commercially. These are sold in the form of bark and the tanners make the extract themselves. In some cases, however, it may be of advantage to make the extract nearer the bush and save the freight on the bulky bark. The method of extraction is very simple and the extract can easily be concentrated and shipment made easy, as stated in a bulletin issued by the Forestry Branch, Department of the Interior.

Take some change in Thrift Stamps.







## EMBARGO ON NURSERY STOCK FROM CANADA IS AMENDED BY U.S.

Entry of Product of Canadian Nurseries into United States is Now Permitted

### PROVISION A BENEFIT

The following announcement is made by the Department of Agriculture:—

Considerable apprehension has been felt by many Canadian nurserymen and florists on account of Quarantine No. 37 of the Federal Horticultural Board, United States Department of Agriculture, which went into effect on June 1, 1919. According to the regulations issued under this quarantine, Canadian nurserymen and florists were prohibited from exporting to the United States practically all kinds of nursery stock with the exception of certain bulbs, seeds, stocks, cuttings, scions, and buds of fruits for propagation and certain rose stocks for propagation. No exception was made, however, for ornamental trees and shrubs grown in Canada. An amendment to these regulations was passed last March which permitted the importation into the United States "in limited quantities" of nursery stock and other plants and seeds "for the purpose of keeping the country supplied with new varieties and necessary propagating stock." As the amendment definitely stated that stock other than that listed as being permissible to import could only be shipped into the United States in limited quantities, and as this quarantine would undoubtedly prove to be a hardship on our nurserymen and florists, the Department of Agriculture made representations to the United States Department of Agriculture with a view to securing an amendment to the quarantine that would permit the entry of native-grown Canadian nursery stock into the United States.

We are pleased to say that our recommendations have been accepted in the friendly and co-operative spirit that was anticipated and as a result the following Amendment No. 2 to Quarantine 37 was passed on August 16:—

"Regulation 15. Permits for the Importation of Otherwise Prohibited Stock from Foreign Countries Contiguous to the United States.

"When it is deemed by the Secretary of Agriculture that the importation from countries contiguous to the United States of any class or classes of nursery stock and other plants and seeds the entry of which is not otherwise provided for by these regulations will not be attended by serious risk to the agriculture, horticulture or floriculture of the United States, permits may be issued, on application, authorizing the entry of such nursery stock and other plants and seeds under safeguards as may be prescribed in the permits: Provided, that importations under this regulation shall be limited to specific classes of nursery stock and other plants and seeds which can be considered as peculiar to such contiguous countries, and not mere reproductions of imported stock from foreign countries, and which are not available in sufficient numbers in the United States: Provided further, this shall not apply to nursery stock and other plants and seeds governed by special quarantines and other restrictive orders, other than Quarantine 37, now in force, nor to such as may hereafter be made the subject of special quarantine: Provided further, that in addition to the certificate required by Regulation 7, the invoice covering nursery stock and other plants and seeds offered for entry under this Regulation must be accompanied by a certificate of a duly authorized official of the country of origin, stating that the nursery stock and other plants and seeds proposed to be exported to the United States have been produced in the country from which they are proposed to be exported.

## OFFICIAL CROP ESTIMATE UP TO THE END OF JULY

(Continued from page 2.)

Field Crops.	Average Yield per Acre 1906-14.	Condition on July 31, (100 in average yield per acre 1906-14.)	Yield per acre as indicated by condition.	Area Sown according to Estimate of June 20, 1919.	Total Yield as indicated by Condition on June 20, 1919.
<b>Ontario—</b>					
Fall wheat <sup>1</sup> .....	23.75	—	39.25	744,000	21,782,000
Spring wheat.....	19.75	85	16.75	308,120	5,127,800
All wheat.....	23.25	—	—	1,052,120	26,909,800
Oats.....	35.25	80	28.25	2,677,000	75,627,500
Barley.....	30.25	80	24.25	609,470	14,779,600
Rye.....	17.50	80	15.50	108,225	1,646,000
Peas.....	18.75	87	14.50	99,850	1,432,300
Beans.....	16.50	92	15.25	62,140	947,800
Buckwheat.....	21.25	90	19.00	234,460	4,454,700
Mixed grains.....	36.00	84	30.25	587,950	17,785,500
Flax.....	14.00	96	13.50	16,530	223,200
Corn for husking.....	64.25	87	49.00	180,450	9,302,700
Potatoes.....	122.25	84	102.75	154,820	15,907,800
Turnips, mangolds, etc.	261.50	80	210.00	149,390	46,310,900
Hay and clover <sup>1</sup> .....	1.50	—	1.40	3,479,280	5,007,845
Alfalfa <sup>1</sup> .....	2.50	—	1.55	142,515	319,700
Corn for fodder.....	9.50	91	8.75	376,560	3,294,900
<b>Manitoba—</b>					
Fall wheat.....	21.00	—	20.50	6,100	125,100
Spring wheat.....	17.75	92	16.25	2,923,000	47,498,800
All wheat.....	17.75	—	—	2,929,100	47,623,900
Oats.....	35.25	92	32.50	1,715,000	55,737,500
Barley.....	25.75	98	24.00	1,103,000	26,472,000
Rye.....	17.00	94	16.00	218,000	3,898,000
Mixed grains.....	39.00	100	29.00	29,000	841,000
Flax.....	12.00	92	11.00	106,000	1,166,000
Potatoes.....	156.75	85	149.00	44,000	6,555,000
Turnips, mangolds, etc.	271.75	85	236.25	10,000	2,362,500
Hay and clover <sup>1</sup> .....	1.25	—	1.25	78,000	120,900
Alfalfa <sup>1</sup> .....	2.25	—	1.65	3,500	5,800
Corn for fodder.....	5.00	100	5.50	12,300	67,700
<b>Saskatchewan—</b>					
Fall wheat.....	17.50	78	12.75	8,972,000	114,393,000
Spring wheat.....	35.75	78	26.00	8,098,000	132,298,000
All wheat.....	24.75	78	19.50	687,000	12,811,500
Oats.....	15.75	77	12.25	136,000	1,696,000
Barley.....	21.00	75	15.75	4,000	630,000
Rye.....	16.00	100	16.00	861	13,800
Peas.....	29.25	92	27.00	24,000	648,000
Beans.....	10.00	72	7.25	841,000	6,067,300
Mixed grains.....	148.25	86	127.50	59,000	7,522,500
Flax.....	251.25	76	191.00	9,600	1,833,000
Hay and clover <sup>1</sup> .....	1.50	—	1.05	308,000	321,300
Alfalfa <sup>1</sup> .....	1.75	—	0.65	7,000	4,600
Corn for fodder.....	3.50	86	3.00	9,000	27,000
<b>Alberta—</b>					
Fall wheat.....	21.00	—	18.75	40,600	761,300
Spring wheat.....	19.00	70	13.25	3,810,000	50,482,500
All wheat.....	19.00	—	—	3,850,600	51,243,800
Oats.....	36.50	76	25.80	2,758,000	70,329,000
Barley.....	26.00	70	19.75	432,000	8,532,000
Rye.....	21.50	85	18.25	45,000	821,300
Peas.....	17.75	80	14.25	2,000	28,500
Beans.....	16.00	95	15.25	690	10,500
Mixed grains.....	25.75	97	25.00	26,000	650,000
Flax.....	9.75	65	6.25	99,000	618,000
Potatoes.....	147.75	87	128.50	45,000	5,782,500
Turnips, mangolds, etc.	224.00	82	192.00	12,500	2,400,000
Hay and clover <sup>1</sup> .....	1.50	—	0.90	464,000	417,600
Alfalfa <sup>1</sup> .....	2.25	—	1.05	25,000	26,300
Corn for fodder.....	2.00	56	1.00	900	900
<b>British Columbia—</b>					
Fall wheat.....	30.00	—	32.25	7,050	227,400
Spring wheat.....	26.75	76	20.25	27,900	563,000
All wheat.....	27.75	—	—	34,550	790,400
Oats.....	55.00	89	49.00	39,400	1,830,500
Barley.....	34.50	84	29.00	7,800	226,200
Rye.....	18.75	70	13.25	960	12,700
Peas.....	28.00	89	25.00	2,300	57,500
Beans.....	16.00	88	14.00	2,280	31,900
Mixed grains.....	40.75	88	35.75	3,400	121,600
Potatoes.....	208.75	85	177.50	14,000	2,485,000
Turnips, mangolds, etc.	451.00	86	387.75	8,600	3,334,700
Hay and clover <sup>1</sup> .....	2.25	—	1.75	114,400	200,000
Alfalfa <sup>1</sup> .....	3.50	—	1.75	13,500	23,000
Corn for fodder.....	8.50	86	7.25	2,200	16,000

<sup>1</sup>Preliminary Estimate.

DOMINION BUREAU OF STATISTICS,  
OTTAWA, August 18, 1919.

Under this provision it will be possible for Western nurserymen, for example, to export to the United States hardy trees that are in demand in the northwestern states of the Union, and

the reciprocal trade in nursery stock between Canada and the United States will not be unnecessarily interfered with.

northern grown caraganas and other

## NEW ORDER GIVES TO WHEAT BOARD ADDITIONAL POWERS

Order in Council is Amended to Enlarge Scope of Board's Activities

### NEW CLAUSES

The Order in Council of July 31, 1919, constituting the Canadian Wheat Board, has been amended by an Order in Council passed August 18, conferring upon the Board additional powers, as follows:—

The Deputy Governor General in Council, on the recommendation of the Minister of Trade and Commerce, is pleased to order and it is hereby ordered as follows:—

1. The Order in Council of 31st July, 1919, P.C. 1539, constituting the Canadian Wheat Board, shall be and the same is hereby amended by adding thereto, as paragraph 15, the following:

15. The Board shall have power:

(a) To buy and sell wheat and wheat products at any point in Canada.

(b) To control by license or otherwise the buying and selling of wheat and wheat products in Canada, and to issue licenses in such form as the Board may decide, and to cancel at any time any license issued by the Board.

(c) To require each applicant for a license to give a bond in such form and in such amount as may be satisfactory to the Board.

(d) To provide that no person, firm or corporation other than the Board, shall buy wheat, operate any elevator or warehouse, where wheat is received, or handle wheat on commission or otherwise unless licensed by the Board.

(e) To require that any wheat sold or purchased in Canada shall be delivered to the Board or to its order in accordance with such regulations as the Board may from time to time make.

(f) To contract with persons delivering wheat to or to the order of the Board, to make payment for the same in accordance with the regulations of the Board, and to enter into such guarantee or guarantees as may be necessary or deemed advisable by the Board so as to enable the producer to receive by way of advance or cash payment, for wheat delivered, such sum or sums as may be directed to be paid by the Board.

(g) To require every licensee of the Board to whom delivery of wheat is made to pay the producer by way of advance or cash payment, such sum or sums as may be directed by the Board.

(h) To order any person holding wheat stored in any elevator or warehouse, or on railway cars or Canadian boats to sell and dispose of the same to any purchaser named by the Board, on such terms as the Board may direct, and any such Order of the Board shall pass to the purchaser the title in the wheat mentioned in any such Order.

(i) To enter into contracts or agreements of any kind, and with any person, with respect to the purchase, sale, handling, storage, transportation and/or insurance, of wheat or wheat products.

(j) To prohibit the export out of Canada or the importation into Canada of any wheat or wheat products otherwise than in accordance with the regulations or orders of the Board.

2. The Canadian Wheat Board shall be deemed to have always had all the powers mentioned in the foregoing, from and after the 31st July, 1919, as if such powers had been conferred upon the said Board by the said Order in Council of that date, P.C. 1539.

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.







## CHANGES IN PENSIONS ACT ARE IMPORTANT

*Modifications in Existing Legislation Will Have Much Effect on Future Decisions as to Pensions*

### SEVERAL AMENDMENTS

The following statement on the subject of the new Pensions Act, which becomes effective September 1, 1919, has been issued by the Board of Pensions Commissioners for Canada:—

The Pension Act, which passed through both Houses during the last parliamentary session, providing for the pensioning of Canada's disabled ex-soldiers, their dependents and the dependents of those who were killed, and is one of the most important enactments the Dominion Government has ever passed.

The Act consolidates various Orders in Council relating to pensions passed in Canada during the war, and in addition gives effect to recommendations made by the special committee which was appointed early in the last session of Parliament to consider the question of pensions and pension regulations.

A number of modifications to the existing "Pension Regulations," which comprise the present law on pensions, are to be found in the new Act, and the changes created will have an important effect on future decisions with regard to pensions.

The most important change which has been made is that authorizing the payment of a bonus, for one year, to disabled company sergeant-majors and lower ranks and to widows and other dependents of members of the forces holding such ranks who have died or been killed.

There are, however, other important amendments, such as the clause which states that the earnings from personal employment of a widowed mother shall not be taken into consideration when an award of pension to such a person is made. Formerly the Pension Commissioners were compelled, under the Pension Regulations, to take earnings or income from any source whatever into consideration when awarding pension in cases of this nature.

This clause also affects beneficiaries of municipal insurance which was given in some Canadian cities to citizens who enlisted in the Canadian Expeditionary Force. The dependents of a soldier so insured became, in the event of his death through military service, entitled to municipal insurance in addition to pension, but under the Pension Regulations income from municipal insurance had to be considered as income, and the award of pension, if made, varied accordingly. This will no longer be the case under the Pension Act, which states that municipal insurance shall not be taken into consideration when pension is being awarded.

Another amendment states that voluntary reversion from a rank held in the C.E.F. to a lower rank for the purpose of proceeding to a scene of hostilities will entitle the particular member of the forces if disabled, or his dependents, if he is killed, to the pension prescribed for the rank from which he reverted. Under the present regulations provision is made for reversion in England only and payment of pension at the higher rate is restricted to the dependents of a deceased soldier. The principle is now extended to include disability cases and also cases of reversion in Canada. Disability pensioners who are affected by this clause should communicate with the Board of Pension Commissioners as, although all cases will be reviewed as quickly as possible, the Board states, the filing of a claim by the pensioner

## PULPWOOD PRODUCTION BY PROVINCES, 1916-17

The following table, from the 1917 report on Pulp and Paper, in the Census of Industry Series, published by the Dominion Bureau of Statistics, shows the production of pulpwood by provinces, 1916 and 1917:—

Provinces.	No. of firms reporting.	Quantity.		Per cent distribution.	Total value.		Average value per cord.	
		1916	1917		1916	1917	1916	1917
	No.	Cords	Cords	p.c.	\$	\$	cts.	cts.
<b>Total</b> .....	<b>55</b>	<b>1,764,913</b>	<b>2,164,234</b>	<b>100</b>	<b>9,127,000</b>	<b>7.42</b>	<b>8.94</b>	
Quebec.....	25	924,273	1,109,800	52.7	9,581,422	7.40	8.60	
Ontario.....	16	637,612	735,691	35.0	7,430,355	7.57	8.10	
British Columbia.....	5	108,937	134,814	6.4	994,768	5.22	7.19	
New Brunswick.....	5	79,594	106,866	5.4	723,482	7.43	6.16	
Nova Scotia.....	5	14,437	18,374	0.9	133,451	5.37	7.26	

will facilitate the rapid completion of the work.

When it is considered that Canada with her comparatively small population is already paying well over \$6,000 pensions on account of the great war, and is still awarding pensions at the rate of over 130 per day, the necessity for sane and equitable legislation, such as the Pension Act appears to provide, is manifest.

## TRADING WITH ENEMY REGULATION IS AMENDED

The Order in Council passed on June 23, 1919, permitting trading and commercial and financial transactions with enemy concerns has been amended by an Order in Council passed on August 15, as follows:—

The Deputy Governor General in Council, on the recommendation of the Minister of Trade and Commerce, is pleased to order that the Order in Council of 23rd June, 1919, permitting trading and commercial and financial transactions with persons resident or carrying on business in an enemy country or occupied territory with whom residents of the United Kingdom have been or may hereafter be permitted by His Majesty's license to trade and have commercial and financial transactions, shall be and the same is hereby amended by adding thereto the following:—

"Provided further that this license shall not permit any person to pay or deliver any sums of money or property which is or but for the war would have been due or deliverable to any person or bodies of persons resident or carrying on business in Germany in respect of transactions entered into before the outbreak of the war."

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.

## LOANS TO SOLDIERS REACH LARGE SUM

Over \$23,000,000 have been loaned by the Soldier Settlement Board to returned soldiers up to July 30. There were 7,939 individual loans approved by the Board and 1,432 were refused. More than 1,900 loans are pending. The Agricultural Qualification Committee reports that 21,400 applications for the benefits of the Soldier Settlement Act had been approved by the Board up to August 9. The total applications received on that date was 23,290, as stated by the Soldier Settlement Board.

War Savings Stamps not only save money but earn it.

## Work of C.A.D.C. Overseas.

In 1917 and 1918 the total number of dental operations performed in England and France by the Canadian Army Dental Corps was 2,355,442. As a result of this work a great many men were saved from being placed in lower categories and made fit for A.I. service, according to the report of the Overseas Minister of Militia for 1918.

## ACCEPT \$35,000,000 PENDING LOAN ISSUE

The amount of temporary investments which the Finance Minister is authorized to accept pending the issue of the coming loan to be issued by the Government has been increased from \$15,000,000 to \$35,000,000 by an Order in Council passed August 18, 1919, as follows:—

The Committee of the Privy Council have had before them a report, dated 14th August, 1919, from the Minister of Finance, submitting that by Order in Council of 17th July, 1919, P.C. 1501, the Minister of Finance is authorized to accept moneys for investment in the coming loan to an amount not exceeding \$15,000,000 on the security of treasury bills bearing interest at the rate of 5 1/2 per cent.

The amount received on this account to date totals over \$11,000,000, and, as many large offers are being made to the Department of Finance, the Minister recommends that he be authorized to accept sums of this character to an amount not exceeding in all \$35,000,000 on the said security.

The Committee concur in the foregoing recommendation, and submit the same for approval.

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.

## SOLDIER SETTLERS SUCCESSFUL IN B.C.

Reports from British Columbia continue to speak of the success of the settlers going on the land under the auspices of the Soldier Settlement Board. In the month of July these men had paid back to the Board sums totaling \$37,000 for the wiping out of loans. A great deal of this money was not due until October, but the settlers were anxious to discharge or to lessen their obligations at the earliest possible moment. A portion of the money was from proceeds of sales from fruit farms and some of it was from live stock, as stated by the Soldier Settlement Board.

## REGULATIONS MADE MORE FAVORABLE TO SOLDIER SETTLERS

*Amendment to Dominion Lands Act Benefits Soldier Who Has Taken Up Land*

### FURTHER CONCESSION

An amendment to the Dominion Lands Act, in the interest of returned soldier entrants, has been made by an Order in Council passed August 14, as follows:—

Whereas the Minister of the Interior reports as follows:—

By Section 14 of the Dominion Lands Act, Chapter 20 of the Statutes of 1906 (amended by Section 36 of the Dominion Lands Act, Chapter 19 of the Statutes of 1918), provision was made for the ownership and maintenance by the holder of a homestead, pre-emption or purchased homestead, as the case may be, of a specified number of stock in each year in lieu of cultivation in order to qualify for better patent:

By Section 23 of the Dominion Lands Act, Chapter 20 of the Statutes of 1906 (amended by Section 6 of the Dominion Lands Act, Chapter 19 of the Statutes of 1918), provision was made whereby an entrant absent from his homestead, pre-emption or purchased homestead, as the case may be, while a member of a military force as provided therein, might count his period of military service as residence:

Provision has been made in the case of such an entrant for earning patent by doing cultivation in one or two seasons, as the case may be, but no provision has been made for a similar concession where the entrant cannot cultivate the required area, and desires to substitute the ownership of live stock as above set forth.

Therefore the Deputy Governor General in Council, under the authority of Subsection (h) of Section 76 of the said Act, is pleased to make the following regulation, and the same is hereby made and adopted accordingly:—

1. If a returned soldier entrant has one full period of six months' military service to his credit, he will require to show ownership of stock during two years only, provided that he shall be the owner of at least sixteen head of live stock when he makes application for patent and complies with the other conditions, as to fencing and the erection of buildings.

2. When he has military service sufficient to credit him with the required period of six months' residence in each of two or more homestead terms, he will require to show ownership of live stock numbering not less than sixteen head during one season only, in addition to having the necessary buildings and fencing.

(This would be applicable also in the case of purchased homesteads.)

3. In the case of pre-emption, a returned soldier entrant may be dealt with on the same basis, except that when making application for patent he will require to furnish proof of the ownership of twenty-four head of live stock, with buildings and fencing as provided by the Dominion Lands Act.

RODOLPHE BOUDREAU,  
Clerk of the Privy Council.

### Canadian Army Chaplains.

There were with the Overseas Military Force of Canada during the war 428 chaplains, two of whom were killed in action, one died of wounds, one died while serving on an hospital ship, two died of sickness, and twenty-one were wounded, as stated in the report of the Overseas Minister of Militia for 1918.

War Savings Stamps pay 4 1/2% compounded half-yearly.



















